الجامعة الأردنيـــــة
كلية الدراسات العليا

التاريـــخ: ٢٢ / ٥ / ٢٠١١

نموذج رقم (١٦)
اقرار والتزام بالمعايير الأخلاقية والأمانة العلمية وقوانين الجامعة الأردنية وأنظمتها وتعليماتها لطلبة الدكتوراه

أنا الطالب: عماد محمد فارس الركابي الرقم الجامعي: (٩٠٦٠٣٢٦)
تخصص: التمريض الكليـــــة: التمريض

عنوان الاطروحة: أنماط التدخين والعوامل المرتبطة بالإقلاع عنه لدى المرضى المصابين بأمراض القلب والأوعية الدموية في الأردن

اعلن بأنني قد التزمت بقوانين الجامعة الأردنية وأنظمتها وتعليماتها وقراراتها السارية المفعول المتعلقة باعداد اطروحات الدكتوراه عندما قمت شخصيا" باعداد اطروحتي وذلك بما ينسجم مع الأمانة العلمية وكافة المعايير الأخلاقية المتعارف عليها في كتابة الأطروحات العلمية. كما أنني أعلن بأن اطروحتي هذه غير منقولة أو مستلة من أطاريح أو كتب أو أبحاث أو أي منشورات علمية تم نشرها أو تخزينها في أي وسيلة اعلامية، وتأسيسا" على ما تقدم فانني أتحمل المسؤولية بأنواعها كافة فيما لو تبين غير ذلك بما فيه حق مجلس العمداء في الجامعة الأردنية بالغاء قرار منحي الدرجة العلمية التي حصلت عليها وسحب شهادة التخرج مني بعد صدورها دون أن يكون لي أي حق في التظلم أو الاعتراض أو الطعن بأي صورة كانت في القرار الصادر عن مجلس العمداء بهذا الصدد.

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تعتمد كلية الدراسات العليا
هذه النسخة من الرسالــــة
التوقيع ..... التاريخ .....

SMOKING PATTERNS AND FACTORS ASSOCIATED WITH SMOKING CESSATION IN PATIENTS WITH CARDIOVASCULAR DISEASES IN JORDAN

By
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This Dissertation was Submitted in Partial Fulfillment of the Requirements for the Doctor of Philosophy Degree in Nursing Science

Faculty of Graduate Studies
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May, 2011

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This Dissertation (Smoking Patterns and Factors Associated with Smoking Cessation in Patients with Cardiovascular diseases (CVDs) in Jordan was Successfully Defended and Approved on…………………………

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Dedication

I dedicate this dissertation to my wonderful wife Nesreen, and my children Ahmad, Zied, Dareen, and Tamer who filled my life with immeasurable joy and inspired me to be a better person. Their encouragement and support helped me to achieve my dreams. Special thanks go to my family, in particular, my brothers, and my sister, who always take care of me and support me with love and understanding. I sincerely thank my beloved parents, Mohammad and Nwayer for the enormous love and persistent encouragement they granted me all their life.

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List of Abbreviations

Abbreviation	Full Wording
ACS	Acute Coronary Syndrome
AHA	American Heart association
AIDS	Acquired Immune Deficiency Syndrome
BRFS	Behavioral Risk Factor Survey
CABG	Coronary Artery Bypass Graft
CADs	Coronary Artery Disease
CARDIA	Coronary Artery Risk Development in Young Adults
CCU	Coronary Care Unit
CDC	Center of Disease Control
CES-D	Center of Ebidemiologogical Studies Depression Scale
CHDs	Coronary Heart Diseases
CI	Confidence Intervals
CO	Carbon Monoxide
COHb	Monocarboxyl Hemoglobulin
CPHA	Canadian Public Health Association
CVDs	Cardio Vascular Diseases
DM	Diabetes Mellitus
EMR	Eastern Mediterranean Region
ENRICHD	Enhancing Recovery in Coronary Artery Disease
ESSI	Enriched Social Support Instrument
FCTC	Framework Convention on Tobacco Control
FTND	Fagerstrom Test of Nicotine Dependence
GATS	Global Adult Tobacco Syndrome
GHPS	Global health Professional System
GTSS	Global Tobacco Surveillance System
GYTS	Global Youth Tobacco Surveillance
HDL	High Density Lipoprotein
HTN	Hypertension
IG	Intervention Group
JD	Jordanian Dinar
JNC	Jordanian Nursing Council
JNMC	Jordanian Nursing and Midwifery Council
KAB	Knowledge Attitude Believe
KHMC	King Hussien Medical City
MOH	Ministry of Health
MPOWER	Monitor Protect Offer War Enforce Raise
NCD	Non Communicable Disease
OR	Odds Ratio
PAI	Plasminogen Activator Inhibition
PD	Psychiatric Disease
PHQ	Patient Health Questionnaire
PTCA	Percutaneous Transluminal Coronary Angioplasty
QAHI	Queen Alia Heart Institute

RBC	Red Blood Cells
RMS	Royal Medical Services
SD	Standard Deviation
SIS	Statistical Informant system
SPSS	Statistical Package of Social Science
TPA	Tissue Plasminogen Activator
UAE	United Arab Emirates
UG	Usual Group
USA	United State of America
USDHHS	United States Department of Health and Human Services
WHO	World Health Organization
WINS	Women's Initiative for Non-Smoking

SMOKING PATTERNS AND FACTORS ASSOCIATED WITH SMOKING CESSATION IN PATIENTS WITH CARDIOVASCULAR DISEASES (CVDs) IN JORDAN

By
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ABSTRACT

Cigarette smoking is considered as on of the major preventable cause of death worldwide. Smoking is the most dominant risk factor for the development of cardiovascular diseases (CVDs). All evidences indicate that the prevalence of cigarette smoking among patients with CVDs is on the rise and little is known about smoking behaviors of patients with CVDs in Jordan.

The purposes of this study were to assess smoking patterns and smoking-related knowledge, attitudes, and beliefs of patients with CVDs in Jordan and to evaluate the relationships between these factors in addition to educational level, household members who smoke, depression, inadequate social support, with their willingness to quit smoking.

The research questions for this study are: what is the frequency of current, former and never smokers in patients hospitalized with CVDs? What patterns of smoking, as well as knowledge, attitudes, and beliefs, do patients hospitalized with CVDs have about smoking? What proportions of patients hospitalized with CVDs are willing to make a serious quit attempt once they are discharged to their homes? What is there a relationship between the knowledge, attitudes and beliefs about smoking, educational level, household members who smoke, depression, inadequate social support, with their willingness to quit smoking?

This study used descriptive cross-sectional design to recruit a convenience sample of 351 adults who had been admitted to medical, surgical, or coronary care units at King Hussein Medical Center (KHMC) with a diagnosis of CVDs. Data were collected using a structured interview. The response rate of the current sample was 97.5% (97.6% men vs. 96.9% women)

The results of the study showed that the mean age of the sample was 53.77 (±SD 11.32) years. Most of the subjects were men (82%, n=289). Forty percent of the sample were current smokers. Less than half of the smokers were advised to quit. Most of the current smokers who had tried to quit smoking used their own ways. One quarter of the current smokers were unaware of the health hazards of smoking. A logistic regression showed that only the first knowledge question "Do you think that you will avoid or decrease serious health problems if you quit smoking?" was a statistically significant independent predictor of willingness to quit [OR=3.02; 95% CI, 1.06, 8.62].

The study indicated that the frequency of smoking among the sample was high. Those who attempted to quit had no help or advice on quitting techniques and often failed in their attempts. The findings of the study might be used in the development of effective smoking cessation programs. There is an urgent need for initiation of evidence-based smoking cessation interventions at Jordanian hospitals, which might help CVD patients who are

currently smokers to quit smoking. This could be accomplished through smoking cessation policy enforcement in most of the Jordanian hospitals.

Keywords: smoking; cardiovascular diseases; quitting; interventions; Jordan.

Chapter One

Introduction and Background

Introduction

The habit of cigarette smoking has spread worldwide and is considered as a major source of morbidity and mortality (World Health Organization [WHO], 2008). The WHO estimates that 1.3 billion people smoke worldwide with about 82% of these are living in developing countries. Of those, about one billion are men and 250 million are women (Field, 2008). Moreover, the WHO estimates that approximately 5.4 million people worldwide died from tobacco-related illnesses in 2006 accounting for one in every five men and one in every twenty women who died over 30 years of age (Jha, Ranson, Nguyen, and Yach, 2002; Jha, 2009). Furthermore, in developing countries, about 50% of men and 20% of women above the age of 15 years smoke, in contrast to 37% of men and 20% of women in developed countries (Jha, Ranson, Nguyen, and Yach, 2002). According to the Centers for Disease Control and Prevention [CDC], 2007), approximately, 45 million of adult Americans smoke, and more than 435,000 deaths each year in the United States are tobacco related (CDC, 2007).

Smoking is the single greatest cause of preventable disease and premature death worldwide (CDC, 2008). One in every two long-term smokers will die from diseases related to smoking (Mills, Wu, Lockhart, Wilson, and Ebbert, 2010). If the current trend continues, it is estimated that smoking will cause the death of more than 8 million people annually by 2030 and a total of one billion will die by the end of the 21st century (WHO, 2008). Of those deaths, 70% will occur in developing countries (Esson and Leeder, 2006). Unless there is widespread cessation of smoking, the number of annual deaths due to smoking will rise to

around 450 million deaths by 2050 and most of these will occur in current smokers (Van-Spall, Chong, and Tu, 2007). Furthermore, smoking is a risk factor for six of the eight leading causes of death globally, including cancer and heart disease (WHO, 2008). Tobacco contains several toxic or carcinogenic products. It also contains nicotine, which is a highly addictive psychoactive chemical (United States Department of Health and Human Services [USDHHS], 2006). It might cause cancer of the lungs, larynx, esophagus, mouth, and bladder, and contributes to cancer of the cervix, pancreas, and kidneys (Soares and Melo, 2008). According to Tobias, Templeton, and Collings (2008) smoking rates are high among patients with specific mental health diseases such as bipolar illness, depression, schizophrenia, and panic disorder. Furthermore, exposure to second-hand smoke at home or in the workplace contributes substantially to diseases related to smoking (USDHHS, 2004).

Developing countries have the largest proportion of smokers in the world, and rates of smoking in those countries are on the rise (Field, 2008). In contrast, the rates of smoking in developed countries have been declining dramatically (Memon et al., 2000). It is not surprising, then, that the burden of disease associated with smoking is much higher in developing countries as compared to developed countries (Esson and Leeder, 2006).

Jordan, as other developing countries, has a high prevalence of cigarette smoking. The burden of smoking-related diseases in Jordan is increasingly evident (WHO, 2008). The recent statistics demonstrated that the prevalence of smoking in adult men was higher (50%) as compared to adult women (11%), 28% in university students, and 24.9% in youth (Abu-Baker, Haddad, and Mayyas, 2010; Haddad and Pertro). Evidence shows that around 50% of those who start smoking in adolescent years go on to smoke for 15 to 20 years (WHO, 2008). Usually, with experimentation (1 or 2 puffs), two third of those who experienced smoking under age of 18 will become regular smokers (Shafey, Erikson, Ross, and Mackay, 2009). Researchers found that cigarette smoking and waterpipe were the most common methods of

smoking among Jordanian smokers, male students preferred cigarettes and waterpipe was the preferred method among female (Dar-Odeh et al., 2010; Khader and Alsadi, 2008). Moreover, the researchers demonstrated that large proportion of Jordanian smokers were excessive smokers (smoked more that 20 cigarettes per day) (Elshatarat, 2010; Khader and Alsadi, 2008). In Jordan, the most frequently reported reasons for starting smoking were friends, family members who smoke, and easy access to cigarettes and the low cost of tobacco (Khader and Alsadi, 2008; Ma'ayeh, 2003).

Non-communicable diseases (NCDs) are sweeping the entire globe, with an increasing trend in developing countries, where the transition imposes more constraints to deal with the double burden of infectious and non-infectious diseases in an environment characterized by limited health systems and resources (Mokdad, 2007). It is expected that NCDs will account for 69% of all deaths in developing countries (Boutayeb and Boutayeb, 2005). The most common form of NCDs is cardiovascular diseases (CVDs).

Internationally, CVDs is the highest leading cause of death worldwide (WHO, 2008). Coronary Artery Diseases (CADs) and Cerebrovascular Accidents (CVAs) are the major contributors (Mohannad, Mahfoud, Kanaan, and Balbeissi, 2008). The CVDs are emerging as a major health problem in United State (U.S.) and are the third leading cause of death and the leading cause of disability. One-quarter of all strokes are fatal (Kun, Wang, and Tseng, 2008). According to the American Heart Association [AHA], 2009, in the U.S, nearly 440,000 each year died due to smoking related diseases, of those 135,000 were related to CVDs (AHA, 2009). In the Eastern Mediterranean region the proportion of deaths from CVDs ranges from 25% to 45% (Abu-Baker et al., 2010).

The WHO estimated that 17.5 million people every year die from CVDs around the world in 2005, representing 30% of all deaths globally. Of these deaths, 7.6 million were due to heart attacks and 5.7 million due to stroke. About 80% of these deaths occurred in low and

middle income countries. If this trend continues, by 2015 an estimated 20 million people will die from CVDs (WHO, 2008). Data indicated that NCDs were accountable for 50% of deaths in Jordan during 2003, with CVDs at 38.2% and cancer at 14.3% (Mokdad, 2007).

Smoking is responsible for the development of CADs and also increased incidence of all clinical manifestations of CADs including Myocardial Infarction (MI), angina pectoris, and ischemic heart diseases (Kun, Wang, and Tseng, 2008). Several pathophysiological mechanisms explain the harmful effects of smoking on CVDs, such as stimulation of the sympathetic nervous system, vasoconstriction, endothelial injury, and dyslipidaemia (Miyazaki, Shimada, Mokuno, and Daido, 2003).

The prevalence of smoking reflects the magnitude of the problem, thus, knowing the current prevalence of smoking is needed to evaluate whether smoking is increasing, decreasing or remaining the same (AHA, 2006). Moreover, smoking patterns must be studied in different populations to establish the foundation for smoking cessation interventions (Mills et al., 2010). Proper control, implementation of successful smoking cessation strategies, and reduction of modifiable risk factors such as smoking, have contributed significantly to the decline in CVDs mortality (Abu-Baker et al., 2010). It is well established that smoking cessation is the most preventable action that might be taken to decrease the onset and complications of NCDs and in particular CVDs (Kalman, Morissette, and George, 2005). The degree of social support available to smokers from the spouse, friends, and family members is very important to the success of smoking cessation programs (May and West, 2000; Park, Kim, Kawack, and Kim, 2004). Lifestyle changes, particularly smoking cessation, have a considerable effect on improving life expectancy, reducing morbidity and reducing health care costs associated with treating smoking related conditions (Mills et al., 2010).

Statement of the Problem

Jordan has the fourth highest smoking rates among Arab countries. Smoking is increasing rapidly in Jordan particularly among the young (Shafey, Dolwick, and Guindon, 2003) which means a greater number of years of smoking in adolescents who now have become adults. In an attempt to control these public health problems, Jordan was one of the first Arab countries to sign the Framework Convention on Tobacco Control (FCTC). The WHO (2008) took the initiative of establishing six important and effective policies known as Monitor, Protect, Offer, War, Enforce, and Raise (MPOWER) to guide the countries that signed the FCTC in its efforts to control tobacco use on the national level. The first of these six policies is monitoring tobacco use. Monitoring is instrumental in demonstrating how interventions should be tailored to the needs of different groups of smokers within countries (WHO, 2008).

Nurses are in a unique position to provide patients with information about the adverse effects of smoking and the benefits of quitting, and to assist smokers in quitting. In fact, the code of practice on Tobacco Control for Health Professional Organizations (TCHPO) adopted by the WHO in Geneva in 2004 encourages and supports nurses to be involved in smoking cessation programs at their workplaces (WHO, 2006a). However, this initiative ideally needs to be developed based on data base using standardized tools to monitor the frequency and patterns of smoking. Such a data base is also valuable for ongoing monitoring and surveillance for evaluation of program effectiveness. This study will examine smoking patterns and smoking cessation in a clinical hospitalized population of patients with CVDs. The results of this study will guide the design of appropriate gender and culturally specific approaches with which to engage patients in smoking cessation interventions.

Significance of the study

All evidence indicates that the prevalence of cigarette smoking in Jordan is on the rise (WHO, 2008; Shafey et al., 2003). A few studies have evaluated smoking in Jordan in a number of populations. Cross-sectional study was conducted by Nadaf (2007) to identify environmental and social factors that motivate University students to smoke. Shishani, Nawafleh, and Froelicher (2008) assessed the prevalence of smoking among Jordanian nurses and physicians. Yousef, Bulatova1, and AbuRuz (2008) conducted their cross-sectional to determine how many of Jordanian CADs patients who achieved their modifiable CVDs risk factors. Shishani, Nawafleh, Jarrah, and Froelicher (2010) examined smoking practices among Jordanian health professionals.

Abu-Baker et al. (2010) compared the frequency of cigarette smoking before and after occurrence of CVDs in two educational hospitals. Elshatarat (2010) studied the patterns of smoking and the perceptions of patients who were men and who were admitted to hospitals with CADs in two private hospitals. This current study is the third study that relates smoking to CVDs; however, it is the first study conducted in military hospital and specifically in Royal Medical Services (RMS) which actually is the largest tertiary referral center for cardiac patients. For the first time smokers women with CVDs were included in the study; it the sample is usually smoker men.

Therefore, establishing tobacco control policies and implementation of systematic smoking cessation strategies particularly in hospitals are becoming increasingly important for Jordan to help smokers people to quit smoking. Moreover, understanding the patterns of smoking particularly among CVDs patients and understanding the individuals' knowledge, attitudes and beliefs related to the hazards of smoking, are all very important to the development of effective smoking cessation interventions. Baseline information that includes demographic characteristics, frequency of smoking, patterns of smoking, risks of smoking,

willingness to quit, preferred methods for quitting, the benefits of quitting, the reasons for quitting, and the reasons for relapse are all necessary to implement successful smoking cessation programs, particularly in hospitals (Abu-Baker et al., 2010; Elshatarat, 2010; Rigotti, Munafo, and Stead, 2008; Van Spall, Chong, and Tu, 2007; Kalman, Morissette, and George, 2005).

Purpose of the study and research questions

The aims of this study were twofold. First, to assess smoking patterns and smoking-related knowledge, attitudes, and beliefs of patients with CVDs in Jordan. Second, to evaluate the relationships between the knowledge, attitudes, and beliefs about smoking, educational level, household members who smoke, depression, inadequate social support, and willingness to quit smoking. More specifically, the study will address the following questions: More specifically, the study attempts to address the following main question:

- What is the frequency of current, former and never smokers in patients hospitalized with CVDs?
- What are the patterns of smoking as well as the knowledge, attitudes, and beliefs do patients hospitalized with CVDs have about smoking?
- What proportions of patients hospitalized with CVDs are willing to make a serious quit attempt once they are discharged to their homes?
- What is the relationship between the knowledge, attitudes, and beliefs about smoking, educational level, household members who smoke, depression, inadequate social support, and willingness to quit smoking?

Study variables

Conceptual definition of tobacco smoking patterns: Is the practice in which tobacco is burned and the vapors are either tasted or inhaled (Charlton, 2004).

Operational definition tobacco smoking patterns: For the purpose of study, the modified Arabic version of The Global Adult Tobacco Survey (GATS) consisted of 65 items divided into six sections was used as a measurement tool of smoking patterns. The GATS was developed in 2007 to be used as a nationally representative household survey (Kaleta, Kozieł, and Miśkiewicz, 2009).

Conceptual definition of cardiovascular diseases: Cardiovascular disease generally refers to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina) or stroke (American Association of Critical-Care Nursing, [AACN], 2001).

Operational definition of cardiovascular diseases: Subjects who had been admitted to the hospital with the diagnosis of CVDs including CADs (stable angina, unstable angina, and myocardial infarction), heart failure, atherosclerosis, cardiomyopathy, endocarditis, valvular heart disease, percutaneous transluminal coronary angioplasty (PTCA), acute coronary syndrome (ACS), and coronary arterial bypass graft (CABG) (M. Nsour, Personal communication, June 8, 2009)

Conceptual definition of depression: An alteration in mood that is expressed by feelings sadness, despair, and pessimism. There is a loss of interest in usual activities, and somatic symptoms may be evident. Changes in appetite and sleep patterns are common (Townsend, 2008, p. 333).

Operational definition of depression: For the purpose of this study, the subjects completed the PHQ-9 depression scale used the continuous PHQ-9 score, ranging from 0 to

27, to assess the patients' self-report of depression severity. The scores were categorized into [(0.0–9.0 = minimal symptoms of short duration; 10.0-19.0 = mild to moderate depression; 20.0-27 = major depression)]. The higher score means that the symptoms of depression are more severe (Kroenke, Spitzer, and Williams, 2001).

Conceptual definition of Social support: The impact of any particular supportive effort depend on the motivations and expectations of both provider and recipient, the nature of the relationship in which the supportive exchange occurs" (Sarason, Sarason, and Pierce, 1992).

Operational definition of social support: For the purpose of this study, social support was assessed using the ENRICHD Social Support Instrument (ESSI), which comprises 6 items with scores of 1 to 5 plus an item regarding marital status. This instrument measures structural, instrumental, and emotional support, but not social networks. The score ranges from 8 to 34, the higher scores indicating greater social support (Mitchell et al., 2003)

Conceptual definition of attitudes: Is the emotional response that expresses an individual's degree of preference for an entity, a verbal indication or typical behavioral tendency of an individual, and a cognitive evaluation of the entity that constitutes an individual's beliefs about the object (Eagly and Chaiken, 1998).

Conceptual definition of knowledge: A fluid mix of framed experience, contextual information, values and expert insight that provides a framework for evaluating and incorporating new experiences and information (Davenport and Prusak, 1998)

Conceptual definition of beliefs: The state of a cognitive system holding information (not necessary in propositional or explicit form) as true in the generation of further though and behavior (Barret and Lanman, 2008).

Operational definition of Knowledge, attitudes, and beliefs: For the purpose of this study, three knowledge questions were used to assess knowledge, attitudes, and beliefs in

CVDs patients in Jordan. The three questions were validated by National Cancer Institution's Community Intervention Trial for Smoking Cessation (CDC, 1990).

Summary and Conclusions

Tobacco use is the leading cause of death globally and also it is the most preventable risk factors for many diseases particularly CVDs. Despite the adverse health hazards of smoking and increases the incidence of CVDs, the prevalence of smoking in Jordan is remains high. Evidence indicated that Smoking cessation reduces overall mortality rate in smoker patients with CVDs more than other forms of secondary prevention. Therefore, there is an urgent need for instituting evidence-based smoking cessation programs in Jordan particularly in hospitals that can help patients who smoke and have CVDs to quit smoking. Health care providers in need for basic information as baseline to develop effective smoking cessation interventions in clinical fields.

Chapter Two

Review of Literature

Introduction

Globally, cigarette smoking is the major cause of death; it accounts for more than five million deaths per year, making it one of the major causes of death (Bernhard and Wang, 2007). The global epidemic of smoking and the continuing increase in the number of smokers worldwide is expected to increase the prevalence of smoking-related diseases (WHO, 2008). Cigarette smoking is the most common cause of CVDs. According to the AHA (2009), smokers are two to three times more likely to suffer from CVDs compared with nonsmokers. Internationally, CVDs are the most common cause of death; they account for 30% of deaths globally (Yuqiu and Wright, 2008). Decreasing the prevalence of smoking-related diseases is an urgent priority. Evidence- based smoking cessation interventions are the most cost effective strategies for preventing mortality and morbidity due to tobacco smoking (Sarna et al., 2009; Shiffman, Brockwell, pillitteri, and Gitchell 2008). Unfortunately, these strategies are rarely used by health care providers particularly in developing countries where the prevalence of tobacco smoking is on the rise (WHO. 2005a). Insufficient education and training both are barriers to the delivery of smoking cessation interventions in clinical practice (Svavarsdottir and Hallgrimsdottir, 2008). Educational programs and additional training are needed for health care providers particularly nurses to enhance there awareness about the benefits of smoking cessation interventions which help patients who are smokers to quit smoking (Sarna et al., 2009; Svavarsdottir and Hallgrimsdottir, 2008; Shiffman et al., 2008).

This chapter will commence with a brief discussion about the history of tobacco use, information and studies on smoking in Jordan, smoking and CVDs, smoking-related morbidity and mortality in Jordan, factors associated with smoking patrrern, knowledge, attitudes and beliefs about smoking in Jordan will be reviewed in details. The chapter will conclude with a review of evidence-based benefits of smoking cessation.

History of Smoking

Tobacco plant, Nicotiana, is a native plant that has been cultivated in South America since about 3000-5000 BC (Musk and De-Klerk, 2003). Nicotiana tabacum and Nicotiana rustica are the major species of Nicotaina which came from North America and South American, and tobacco was variously called tabaco, tavaco, petum, betum, cogioba, cohobba, and quauhye (Charlton, 2004). The first trial of tobacco being smoked was reported in Guatemalan pottery in the period between 7th and 11th centuries AD (Royal College of Physicians of London, 2000). The early use of tobacco was started by Americans Indians mainly for therapeutics and ceremonial purposes (Charlton, 2004; Royal College of Physicians of London, 2000). Christopher Columbus (1492) noted that dried tobacco leaves were used by Native Americans and was thought to be used for their healthfulness, pleasurable effects, toothpaste to whiten the teeth, and for treatment of wide range of various diseases (Charlton, 2004). In the same year, Columbus sailors noted that natives in Haiti and Cuba burned tobacco leaves to disinfect, and to ward off various ills and fatigue (Charlton, 2004). In the 15th century, European explorers and travelers took the tobacco plants and seeds back to Europe for the first time (Doll et al., 2004).

Historically, different methods were used for tobacco smoking (Viegas, 2008; Charlton, 2004; Doll et al., 2004; Musk and De-Klerk, 2003). In the 15th century, snuffing was the common practice of tobacco smoking used by Native Americans in which the powder from

tobacco was inhaled through the nose and was absorbed by the mucus membranes (Musk and De-Klerk, 2003). Tobacco snuffing was not the only form for tobacco smoking but tobacco was also eaten, chewed, smeared over bodies, and used in eye drops (Charlton, 2004; Musk and De-Klerk, 2003). In 16th, 17th, and 19th centuries tobacco was smoked in a pipe or as a cigar but cigarette smoking was rare (Viegas, 2008; Doll et al., 2004). During the beginning of 20th century, smoke of manufactured cigarettes increased dramatically and tobacco smoking became a global epidemic (Royal College of Physicians of London, 2000). In 20th century, different methods were used for tobacco smoking. In the United State of America (USA), the most common forms of tobacco used are cigarette smoking (57.4%), Black Milld (31.8%), cigars (30.1%), kreteks/bidis (24.1%), smokeless tobacco (13.9%), and pipe (8.9%) (James, Chen, and Sheu, 2007).

Increased prevalence of smoking worldwide has been followed by increased prevalence of smoking-related diseases and nowadays tobacco smoking had been identified as a major cause of premature death (WHO, 2008; Musk and De-Klerk, 2003). It also evident that tobacco smoking is the main risk factor for many diseases particularly, cardiovascular diseases (CVDs) and lung cancers (WHO, 2008; USDHHS, 2006). According to the latest report by the WHO (2008), smoking will kill more than AIDS, malaria and tuberculosis combined.

Tobacco smoking is the practice in which tobacco is burned and the vapors are either tasted or inhaled (Charlton, 2004). Cigarette smoking is the most common form of tobacco smoking (Viegas, 2008; Musk and De-Klerk, 2003; Royal College of Physicians of London, 2000). A smoker is someone who smoked at least 100 cigarettes in their lifetime and had smoked in the past one month, where a former smoker is someone who had smoked at least 100 cigarettes in their lifetime but who had not smoked, not even a puff in the past seven days (WHO, 2004).

Despite the well-known health consequences of tobacco use, the popularity of smoking is on the rise (WHO, 2009). The WHO estimates that there are more than one billion current smokers worldwide; the majority of these can be found in developing countries (WHO, 2008). Smoking is higher among men compared to women. Approximately, for every four male smokers there is one female smoker (WHO, 2006b). Globally, 47% of men and 12% of women are current smokers (Shafey et al., 2003). In developed countries, the number of smokers among men is higher than smokers among women (35% vs. 22%) but the difference is narrow compared with those in developing countries in where about 50% of smokers are men and only 22% smokers are women (Mackay and Eriksen, 2002). For example, in the USA, the prevalence of smoking is 20.6% where 23.1% of American men and 18.3% of American women are current smokers (CDC, 2009). In Arabic countries, the prevalence of smoking has reached epidemic proportions, with the numbers of smokers much higher than in other regions of the world (Jamil et al., 2008). The use of tobacco in the Arab countries (both cigarette and water pipe smoking) is increasing at rates ranging from 15.5% in Oman to 77% in Yemen for men, and from 0.5 % in Qatar to 35% in Lebanon for women (WHO, 2005b).

Tragically, the epidemic of smoking is shifting towards the developing countries due to low levels of public awareness, lack of aggressive and widespread tobacco marketing, lack of awareness about its dangers, inconsistent public policies against its use, and limited smoking cessation programs available (WHO, 2009). The well-known adverse effects of smoking are impacts on health of individuals, families, communities, and economy (CDC, 2007). Annually, the USA spends $75.5 billion dollars as indirect medical costs for treatment of tobacco-related diseases and $92 billion for smoking-related lost productivity (Rice et al., 2006). In the USA, for every one dollar spent on cigarettes purchase seven dollars are spent on health problems related to smoking (Centers for Disease Control and Prevention [CDC], 2007). National statistics reveal that smokers in Jordan spend an estimated JD 250 million

annually on tobacco, or about 4% of the country's gross national domestic product (Ma'ayeh, 2003). Understanding the nature of tobacco use and developing public health strategies can help the developing countries to reduce tobacco use, save billions that could otherwise be spent on healthcare programs and food production (WHO, 2006b).

Today, tobacco smoking has been identified as a major preventable public health risk in most of the developing countries (WHO, 2008). This problem is having the immediate attention of public health at national and international levels especially because it is reversible and preventable (WHO, 2006b). Moreover, the WHO has targeted the prevention and treatment of tobacco addiction as priorities for intervention in developing countries (WHO, 2003). Establishment of long term tobacco control policies, development of effective smoking cessation programs, and provision of information related to health hazards of smoking in addition to collecting basic information about smokers' knowledge, attitudes and beliefs about smoking are essential in order to end this epidemic habit (Svavarsdottir and Hallgrimsdottir, 2008; Sohn et al., 2007).

Smoking in Jordan

Jordan is a small country located in the Eastern Mediterranean Region (EMR). It has a relatively small population of about 6,000,000 with an annual growth rate of 2.9%, more than half of the Jordanian population is younger than 25 years and 38% younger than 15 years (Haddad, Shoter, Umlauf, and Al-Zyoud, 2010). In a recent report, it was estimated that the prevalence of smoking in the Jordanian population is on a rise (47.1%); a huge gap exists between Jordanian adult men and women with respect to prevalence of smoking; more men smoke compared to women (50%, 11% respectively) (CDC, 2004; Abu-Baker et al., 2010).

Smokers in Jordan start smoking at an early age. The Ministry of Health (MOH) surveyed youth aged 13-15 years using the Global Youth Tobacco Surveillance (GYTS) as

part of Global Tobacco Surveillance System (GTSS). The study demonstrated that 19% of these youth were smokers (25% males and 14.5 % females). Reasons for smoking included: imitating adults, peer pressure and easy access to cigarettes and the low cost of tobacco. Most of the students reported that they were not taught about the harmful effects of smoking at schools (Ma'ayeh, 2003).

During 2007, the behavioral risk factor survey (BRFS) conducted by the Jordanian MOH on 3,654 Jordanian adults aged ≥ 18 years with a response rate of 99.1%, estimated that nearly 40% of all adults aged 25 years or older were former smokers, 28% were current smokers (50% men and 5%women), men aged 25-34 years reported the highest prevalence (63%), while women aged 18-24 years had the lowest (<1%) prevalence (Belbeisi, Al-Nsour, Batieh, Brown, and Walke, 2009).

Smoking among youth is on the rise. In 2007, a cross-sectional study was conducted in Jordan to identify the environmental and social factors that motivate adolescents to smoke (Nadaf, 2007). A convenience sample of 851 was recruited from Private University students and faculty members with a male to female gender ratio of 3:2. A self-administered questionnaire based on previously developed instruments was used for data collection. The researcher found that 33% of the participants were current smokers, 26.5% were men and only 6.5% were women. The results indicated that the majority (88%) of the smokers started smoking before the age of 21 years. Nadaf (2007) found that the more frequently reported reasons for starting smoking were to try something new (79%), influence from other smokers (28%), the belief that people who smoke are more socially accepted than non-smokers (15%), smokers are more mature (14%), and stronger (9%). The environmental factors that motivated students to smoke were related to teachers (74%), friends (63%), siblings (42%), and fathers (37%) (Nadaf, 2007). Smoking among youth is alarming because half of the population is under the age of 18 and as the youths grow older they continue their smoking

behavior, thus, increasing risk of CVDs and other diseases at an early age (Naddaf, 2007; Ma'ayeh, 2003).

The prevalence of smoking among health professionals in Jordan was found to be high particularly among nurses and physicians. Shishani, Nawafleh, and Froelicher (2008) used the Global Professional Health Survey (GHPS) to collect data from 910 health care professionals from 10 major hospitals in Jordan to assess the prevalence of smoking among Jordanian nurses and physicians. Of those, approximately three quarters were nurses (72.7%) and 27.3% were physicians. Of the total sample, 66.3% were men and less than quarter were women (23.7%). The researchers indicated that the prevalence of smoking (39%) was found to be higher in men (50%) than it was in women (14.9%). Furthermore, the results revealed that physicians reported a higher proportion of smoking (46.9%) compared to the proportion in nurses (36.1%), more than half of the participants (53.8%) were willing to quit, 31.5% of the participants believed that cigarettes are addictive, whereas only 7.6% believed that waterpipe is addictive, 40.4% of the participants believed that cigarette and waterpipe are addictive, 20.5% of nurses and physicians reported that they did not recognized the addictive aspect of smoking, more than quarter (26.6%) of the nurses reported lack of knowledge about the adverse health hazards of smoking and 17.3% of them did not believe in the benefits of quitting smoking, and 27.4% of the respondents stated that they did not receive any special or formal training during their undergraduate studies about health hazards of smoking and about the benefits of smoking cessation that could help patients who smoke on how to quit smoking. The data from this study indicated that health educational programs that discuss the adverse health hazards of smoking and benefits of smoking cessation interventions in improving patients health is urgently needed for health professionals particularly nurses and physicians (Shishani et al., 2008) .

During the period from 2006-2008, smoking prevalence among university students was increased from 28% to 35% (Haddad and Pertro, 2006; Khader and Alsadi, 2008). Gender differences were observed (for every five male smokers one female smokers) (Khader and Alsadi, 2008). Stress, peer pressure, social acceptance, family history of smoking, and the desire to attain high personality profile were the reasons for smoking by university students (Khader and Alsadi, 2008). Reduction of smoking rates in college students mandates enforcing public policies on prohibiting smoking on campuses (Madanat et al., 2008) and raising awareness about smoking cessation and benefits of quitting (Shishani et al., 2008).

Water pipe is a form of smoking that is a common social practice (WHO, 2006c). Water pipe smoking is a centuries old habit that initially started from India around 1400s. It is also known as “argileh”, “shisha”, “hookah”, “goza”, or hubble-bubble and is used to smoke tobacco (Knishkowy and Amitai, 2005). When using a water pipe, tobacco is placed over the head of the device, tobacco is heated by a little piece of charcoal, creating a vacuum above the water, and a hose connected with a mouth piece allows the smoker to inhaled pure tobacco passing through the bottle of water (Bacha, Salameh, and Waked, 2007). In Arabs countries, tobacco is sweetened and some flavors such as strawberry, lemon, melon, apple, and mint are added. This form of tobacco is called “Almua’sel” (Chaouachi, 1999). Compared with cigarette smoking, waterpipe has no filter for nicotine and smokers regulate the frequency of smoking by deep suction, which expose the smokers to higher concentrations of nicotine, carbon monoxide (CO), and heavy metals than to be in cigarettes, which contribute to same if not worse health consequences associated with cigarette smoking (Bacha, Salameh, and Waked, 2007; Shihadeh and Saleh, 2005).

There is a common misconception that smoking waterpipe is not as harmful as smoking cigarettes; it is a common social activity and it is thought to be attractive (Maziak, 2004). In contrast to cigarettes smoking, water pipe smoking is known to release greater amounts of

aldehyde compounds such as formaldehyde, acetaldehyde, acrolein propionaldehyde and methacrolein. Aldehyde is known to be toxic and carcinogenic (Al Rashidi, Shihadeh, and Saliba, 2008) and smoking waterpipe may have serious consequences (Bacha, Salameh, and Waked, 2007). One episode of smoking water pipe produces as much tar as smoking 20 cigarettes. One study established that waterpipe smoke contains an abundance of chemicals known to be risk factors for cancer and CVDs; for example, the ratio of carbon monoxide to nicotine was 50:1, as compared to 16:1 for cigarettes (Shihadeh and Saleh, 2005).

An analysis of studies done in Arab countries reveals that waterpipe smoking is highly prevalent (Maziak, 2004; Maziak, 2005) ranging from 31% to 57% of people, and that more women than men smoke waterpipe (Maziak, 2004). In Jordan, waterpipe is becoming the favorite form of tobacco use particularly among college students. A cross-sectional study was conducted to investigate the prevalence and pattern of waterpipe and to assess beliefs about waterpipe adverse health hazards among Jordanian college students (Dar-Odeh et al., 2010). A total number of 1,453 students were selected randomly from three public Jordanian universities located in the North, middle, and South of Jordan. Of those, 51% were males and 49% were females. Dar-Odeh et al. (2010) found that 62% of the total male students and 10.7% of the total female students were current smokers; 42% of male students preferred cigarettes and waterpipe as smoking methods. On the other hand, more than half of female students (53%) preferred waterpipe only. Thirty-eight percent of participants indicated how frequently they used waterpipe, of those 25% smoked waterpipe on daily or weekly basis, while 13% reported that they smoked waterpipe only occasionally (Dar-Odeh et al., 2010). The researchers found that 82% of smoker students reported that they started smoking waterpipe because of their friends who smoked it. Interestingly, 12% indicated that they smoke waterpipe with their families. Very few (10.0%) of participants believed that waterpipe smoke is more harmful than cigarette smoking. The most frequently stated harmful

effects of waterpipe were respiratory diseases (37%), cancer (35%), and cardiovascular diseases (20%) (Dar-Odeh et al., 2010).

A cross-sectional study was conducted in 2008 to identify the prevalence of smoking among university students in Jordan (Khader and Alsadi, 2008). A total of 712 students (369 male, 343 female) were selected from three different classrooms (economics, science, and administrative science) at public University in Irbid using simple random sampling. Anonymous self-administered questionnaire was used for data collection. The participants' age ranged between 17 and 28 years. The researchers indicated that approximately 35% of participants were current smokers. The prevalence of smoking was higher in male students than females (56% and 11.4%, respectively). The results also revealed that 80.3% students who smoke were cigarette smokers while, only 19.3% were waterpipe smokers. Nearly quarter (23%) of the smokers smoked more than 20 cigarettes per day (Khader and Alsadi, 2008). Regarding the prevalence of smoking, results indicated that students who attended religion and law classes were less likely to smoke compared with those who attended in other classes ($p < .0001$). Furthermore, the results of this study indicated that increased prevalence of smoking was significantly associated with increased numbers of persons who smoke in the household and increased number of friends who smoke ($p < .005$ and $p < .0001$, respectively). Risk actors for being a smoker were: male, high family income, and increased number of friends and family members who smoke. The study also demonstrated that about 85.5% of the current smokers initiated smoking at or after the age 15. The most frequently reported reason for starting smoking were friends (47.4%) while the reported reason for not smoking were health hazards of smoking (35.6%) and religious ban of smoking (32.8%). More than half (54%) of the respondents stated that they had attempted to quit smoking, approximately 40% of smokers stated that they did not know if they would quit smoking in the future, and about 37% indicated that they intended to quit in the future (Khader and Alsadi, 2008).

Smoking Related Morbidity and Mortality in Jordan

Non-communicable diseases (NCDs) are a global challenge (WHO, 2008). Reports from the World Health Organization Statistical Information System [WHOSIS], 2009) estimated that the proportion of deaths from CVDs ranges from 25% to 45% in the Eastern Mediterranean countries (WHOSIS, 2009).

In Jordan, non-communicable diseases (NCDs) accounted for more than 50% of all deaths in the country, with cardiovascular diseases at 38.2%, respiratory diseases for 36%, and cancer at 14.3% (CDC, 2008; Mokdad, 2007). Additionally, the National Cancer Registry recorded about 3,360 new cancer cases; lung cancer was the most prevalent type (7%). About 83% of lung cancer patients were smokers (Ma'ayeh, 2003).

Smoking is the major risk factor that increases the risk of CVDs (Smith and Burgess, 2009; Frothingham, Payne and Meadows, 2008; Kung, Wang and Tseng, 2008; Mackay and Mensh, 2004). The total mortality rate in patients with CVDs was found to be higher in smokers compared to non smokers (Abu-Baker et al., 2010; MOH, 2008). Increased prevalence of smoking (28%) among Jordanian adults aged ≥ 18 years increase the prevalence of CVDs among Jordanian population (Belbeisi et al., 2009).

The vast majority of those with CVDs have one or more risk factors (Hammoudeh et al., 2006; Yasein, 2005; Mackay and Mensh, 2004). The major risk factors associated with CVDs are smoking, hypertension, high cholesterol, obesity, physical activity, and diabetes mellitus (DM) (Mackay and Mensh, 2004).

The prevalence of these factors in Jordan is on a rise. In 2007, the MOH in Jordan estimated the prevalence of the most dominant risk factors associated with CVDs as follows: hypertension (25.6%), diabetes mellitus (DM) (16.0%), hypercholesterolemia (36%), overweight (36%), and physical inactivity or sedentary life (32%) (Shishani, 2010). Health care-based cross-sectional study was conducted to assess the prevalence of cardiovascular

risk factors and anthropometric measures among Jordanian women who attended the family practice clinics at the Jordan University hospital. A total of 280 women selected randomly were participated in the study. Retrospective review of existing records was used for data collection. The participants ranged in age from 25 to 88 years, with a mean age of 50.9. The results of this study indicated that the most common CVDs risk factors reported by Jordanian women were hypertension (27%), 22.5% DM, 60% high serum cholesterol, 57% low High Density Lipoprotein (HDL), and 40% of the participants had high serum triglycerides. The researcher found that 43.6% of the participants were found to be obese, 35% overweight. The results shown that waist circumference was the only index found to be statistically significant associated with hypertension ($p=0.002$), while all the indices of obesity were found to be associated with DM ($P \leq 0.04$). The results demonstrated that waist circumference was found to be statistically significantly ($p \leq 0.02$) associated with five of the CVDs risk factors (DM, hypertension, s. cholesterol, s. HDL-C, and s. triglycerides) (Yasein, 2005). One study was conducted to evaluated the prevalence of the major risk factors associated with CVDs (cigarette smoking, DM, hypertension (HTN), and dyslipidaemia) among coronary heart disease (CHDs) patients in Jordan. A total of 5,000 subjects participated in this study, 66% were men and 34% were women. The results of this study indicated that of the total sample, the prevalence of CHDs was 31% (n=1,534), of those 78% (n=1,202) were men and 22% (n=332) were women. The researchers indicated that the great majority (95%) of CHDs patients have at least one risk factor, smoking rates were higher in men with CHDs (45%) compared with women (11%), men had lower prevalence of DM (40% vs. 64%), lower prevalence of hypertension (38% vs. 63%), lower levels of high-density lipoprotein cholesterol (60% vs. 39%), and lower hypercholesterolemia (19% vs. 27%) (Hammoudeh et al., 2006).

Walke et al. (2008) examined the burden of NCDs in Jordan. It was estimated that by 2050 approximately one to three million people in Jordan will be affected by diabetes, hypertension, or high blood cholesterol (Walke et al., 2009).

Large proportion of patients with CVDs continue smoking after occurrence of CVDs (Abu-Baker et al., 2010). A cross-sectional study was conducted to compare the frequency of cigarette smoking before and after occurrence of CVDs, to investigate the relationship between smoking behaviors and demographic variables, and to determine the reasons that discourage quitting smoking. A convenient sample of 300 patients with CVDs were interviewed in the medical outpatient clinics in a governmental teaching Hospital, and from the cardiac outpatient clinics in the major University-affiliated teaching hospitals. Both hospitals were located in the part of Jordan. Patients' mean age was 56.43 years (SD = 11.65). Of the total sample, 77.7% were male and 22.3% were women, 62% of the participants had less than a high school level of education, and approximately 38% had high school level or above education. The results of this study indicated that 48.3% were current smokers (89.0% men; 11.0% women), 11.7 % former smokers, and 40% were nonsmokers. At the day of admission, patients were diagnosed with stable and unstable angina, MI, cardiomyopathy, endocarditis, valvular heart disease and patient's post Percutaneous Transluminal Coronary Angioplasty (PTCA) and post Coronary Artery bypass Graft (CABG). The researchers found that the mean number of cigarettes smoked per day were 33.4 (SD=17.67) before the occurrence CVDs, and this mean decreased to 26.74 (SD=19.82) after CVDs occurrence. The researchers indicated that 56% of the participants reported the reasons that discourage CVDs patients from quitting smoking were: 'not incline to quit' (25.6%), 'craving for cigarettes' (25%), 'other people who live with me smoke' (11.3%), 'loss of a way to relief stress' (10.7%), and a few reported 'availability of cigarettes at a low cost' (6%) as a reason for not quitting. About 19% of the participants stated that they were

advised by their doctor to quit smoking, and only 10.6% were advised by their nurses. The researchers found that 60.7% of the patients continued smoking after diagnosis of CVDs, 9.6% relapsed, and only 29.7% quit smoking (Abu-Baker et al., 2010).

Smoking and Cardiovascular Diseases

Tobacco contains more than 4,800 chemical substances and 69 carcinogens (Prasad, Kabir, Dash, and, Das, 2009). Carbon monoxide (CO) is considered the main toxic substance (Kung, Wang, and Tseng, 2008). Elevation in the level of CO can cause tissue hypoxia because CO diffuses rapidly across alveolar capillaries binding with hemoglobin and then forming monocarboxyl hemoglobulin (COHb), leading to tissue hypoxia (Kao, Kristine, and Nangas, 2004). The COHb level is correlated with cigarette dose. The normal level of COHb in the blood is less than 1% but it can increase by 5% per pack smoked daily, and increase by 10-15% in a heavy smoker (Kao, Kristine, and Nangas, 2004). Furthermore, smokers are more likely to suffer from red blood cell (RBC) macrocytosis hyperchromia and polycythemia that are associated with CVDs and pulmonary disease and renal glomerular cell injury (Yadav, 2006). Smoking can also lower the level of High-Density Lipoprotein (HDL) in which, it can lead to an elevation of the Cholesterol-carrying lipoprotein levels. Cholesterol-carrying lipoproteins then enter the wall of smoker's arteries that can lead to the development of a hard plaque and atherosclerosis which decrease the diameter of these arteries and then reduce the amount of available hemoglobin to deliver oxygen to the bloodstream and cells of the body (AHA, 2006).

Smoking accelerates coronary artery thrombosis by increasing platelet aggregation and platelet adhesion (Prasad et al., 2009; Miyazaki, Shimada, Mokuno, and Daida, 2003). Platelet activation related to smoking is the key player in the atherosclerotic process which mediates the pathogenesis of CVDs (Prasad et al., 2009). Endothelial dysfunction and

atherosclerosis related to smoking can reduce the release of nitric oxide which inhibits platelet activation, increase the release of plasminogen activator inhibitor-1(PAI) which impairs fibrinolysis, and reduce the secretion of tissue plasminogen activator (TPA) which promotes coronary artery thrombosis (Newby et al., 2001; Zidovetzki, Chen, Fisher, Hofman, and Faraci, 1999). Tobacco smoking causes the platelets in your blood to clump together easily by making your blood cells more “sticky” and more likely to form clots. Clumping platelets can then block your coronary arteries and cause a heart attack (Miyazaki, Shimada, Mokuno, and Daida, 2003). Furthermore, coronary artery spasm caused by smoking reduces blood flow to the heart and causes angina (Kung, Wang, and Tseng, 2008). Smokers and passive smokers are 20 times more likely having vasospastic angina compared to nonsmokers (Prasad et al., 2009). Smoking promotes coronary artery vasoconstriction by increasing platelets, plasma vasopressin, and by alpha adrenergic increase in arterial tone (USDHHS, 1990).

Based on the Fagerstrom Test of Nicotine Dependence (FTND), individuals that had no intention to quit cigarette smoking had high level of nicotine dependence (Girma, Assefa, and Deribew, 2010; Fagerstrom, Heatherton, and Kozlowski, 1990). Nicotine, CO, and other chemical substances in tobacco smoke can trigger symptoms of CVDs and promote atherosclerosis (Kung, Wang, and Tseng, 2008). Increased secretion of catecholamines due to the nicotine’s sympathetic effects increases heart rate, blood pressure, and may produce ventricular arrhythmias. The combination of increased myocardial oxygen demand caused by tachycardia and hypertension related to smoking and impaired gas exchange due to increased carboxyhemoglobin can produce or exacerbate myocardial ischemia (Prasad et al., 2009; USDHHS, 1990).

Factors Associated With Smoking

There is little information about the individuals' knowledge and community awareness about the adverse health effects of tobacco use and factors influencing attempts to quit smoking. Examining the population's knowledge of risk factors can help guide public health programs (Itil, Ergor, and Ceylan, 2004). Few studies measured how much the general population knows about CVDs risk factors, most of the studies were done in the context of CVDs primary-prevention (McDermott et al., 2003). Although most studies described what a population knows, some of these studies have tried to examine trends in the degree of knowledge people have about CVDs risk factors, and others to identify the correlates of that knowledge. Findings from these studies indicated that respondents were not able to correctly describe CVDs as a condition involving limitation in blood flow to the heart. Majority of respondents could identify only up to two risk factors for CVDs. Most commonly identified risk factors were stress, dietary fat, smoking and lack of exercise. Finding also clearly showed that the educational programs and adequate preventive behavior patterns are urgently required to improve the level of understanding of CVDs in the CVDs population (Khan et al., 2006; Islam and Johnson, 2005; Jafary et al., 2005; Itil et al., 2004; McDermott et al., 2003). Changing the beliefs and perceptions of smokers about smoking is known to be effective in assisting smokers in quitting smoking (Islam and Johnson, 2005). Health Belief Model (HBM) was developed in 1950s as a way to explain why medical screening programs provided by public health services were not successful (Hochbaum, 1958). It is the most commonly used model in health promotion and health education (Glanz, 2002). Four perceptions serve as a main constructs to the HBM include: Perceived Susceptibility, Perceived Severity, Perceived Benefits, and Perceived Barriers (Stretcher and Rosenstock, 1997). According to the HBM, modifying variables (Factors that affect whether the individual adopt a new behavior or not), cues to action (factors that encourage individual's

changing behavior), and self efficacy (individual's belief in his own ability to do something), all affect individual's perceptions of susceptibility (chance of getting the disease), Perceived Severity (individual's judgment about the severity of diseases), Perceived Benefits (whether the new behavior is better than the previous one), and Perceived Barriers (factors that prevent individual from adopting new behavior) (Wallace, 2002). However, HBM can be used as the primary behavior theory for the development of successful smoking cessation interventions that motivate and support CVDs patients in their quit attempts.

Smoking and Depression

The prevalence of cigarette smoking was found to be high among patients with mental health disorders such as depression, schizophrenia, and panic disorders (Tobias, Templeton, and Collings, 2008). The prevalence of smoking is three times more likely to be in smokers patients with mental disorders than nonsmokers. A majority of patients with mental illness have been found to be heavy smokers and have severe nicotine dependence (McNally and Ratschen, 2010). A study was conducted in the USA to examine the possible relation of depressive symptoms, cigarette smoking status, and demographic variables (Perez-Stable et al., 1990). A total of 547 subjects were recruited from the 27 census tracts in San Francisco. Center for Epidemiological Studies Depression scale (CES-D) was used to measure depressive symptoms. According to the CES-D scale scores of greater than 16, the results of this study indicated that depression symptoms were found to be higher in current smokers (61.4%) compared with former smokers (36.8%) and never smokers (30.3%). Furthermore, the researchers found that depressive symptoms were higher in women smokers (39.5%) compared with men smokers (21.9%). The researcher found that current smokers had 70.0% greater risk of significant depressive symptoms compared with those who non-smokers (Perez-Stable et al., 1990).

Depression is commonly present in patients with CVDs and is independently associated with increased cardiovascular morbidity and mortality. Screening for depressive symptoms is recommended in order to identify patients with medical and mental health problems, who require assessment by a mental health professional and if depression is confirmed treatment should be provided (Lichtman et al., 2008). Smoking is highly co-morbid with psychiatric disorders (PDs). Smoking in the U.S. is approximately 23%, but it increases by two- to four-fold in patients with PDs (Kalman, Morissette, and George, 2005). Many remaining smokers have had repeated smoking cessation failures, possibly due to the presence of co-morbid PDs (Kalman, Morissette, and George, 2005). Son et al. (1997) conducted a prospective epidemiological study to determine if depressive symptoms are independently associated with smoking and nicotine dependence in cigarette smokers using 1990-1991 data from the study of Coronary Artery Risk Development in Young Adults (CARDIA). Finding from this study indicated that smokers had more depressive symptoms than those who non-smokers. A deeper understanding of the association between mental disorders and smoking is important for smoking cessation (Tobias, Templeton, and Collings, 2008).

Smoking and Social Support

There is extensive evidence of a relationship between social support and prevalence of smoking (Vaglio et al., 2004). A cross-sectional study was conducted in South Korea to identify the role of social support related to smoking behavior among people living in rural areas (Yun et al., 2010). Of 1,057 participants who were studied; data related to smoking and social support were collected from the using structured questionnaires. The results of this study indicated that the prevalence of smoking among participants was 17.4%, of those 38.8% were men and only 5.1% were women, social support was found to be higher in men than women, smokers had higher levels of social support ($p = 0.00$) compared with former

and nonsmokers. Furthermore, the researchers found that people with high levels of social support were more likely to smoke (OR = 2.21, 95% CI 1.15, 4.26) and women with moderate social support were less likely to be smokers (OR, 0.18, 95% CI 0.05, 0.61) (Yun et al., 2010). The results of this study indicated that understanding of the all dimensions of social context including social support is necessary in order to develop effective smoking cessation interventions.

Social support is considered as one of the most important factors that determine the success of smoking cessation programs (Vaglio et al., 2004). Smoking initiation and cessation of smoking are strongly influenced by other family members (Park et al., 2004). Moreover, success with smoking cessation is significantly associated with the degree of social support available to smokers from the spouse, friends and family members (Park et al., 2004; May and West, 2000).

Knowledge, Attitudes and Beliefs about Smoking

The prevalence of smoking in developing countries is extremely high and tobacco smoking remains the main cause of preventable deaths particularly among the young. In Saudi Arabia, studies indicated that the prevalence of smoking among secondary school male students was 34% whereas in female was 11%, and 66% started smoking as early as 12 years of age (Abdallah et al., 2007). A cross- sectional study was conducted in Saudi Arabia from July to September 2010 by to assess the prevalence of smoking and to assess the attitudes, practices and knowledge regarding risk factors of tobacco consumption among students from two medical colleges in Riyadh, Saudi Arabia using a convenience sample of 215 students from medical colleges. An anonymous self-administration questionnaire developed from Global Adult Tobacco Survey (GATS) was used for data collection. The researchers found that 19.0% (n=40) were current smokers. All of them were males which increased the

prevalence of smoking among male medical students to reach up to 24%. The study demonstrated that the majority (94%) of the participants showed high awareness of the adverse health effects of smoking particularly its role in increasing the prevalence of lung cancer and CVDs. Surprisingly, 20% (n=40) of the total sample believed that smoking has some beneficial effects in alleviation of stress faced by the students. The researchers observed that tobacco consumption increases with students' progression being higher among senior students compared to those in first and second years of study (Al-Haqwi, Tamim, and Asery, 2010).

The prevalence of smoking by university students in United Arab Emirates (UAE) was found to be less than those in the universities of nearby Arabs countries. One study was conducted in UAE to identify the prevalence and patterns of smoking, and to estimate risk factors of tobacco consumption among the students in UAE. A stratified random sample was used to recruit a total of 1,057 students. The investigators found that 15.1% of the total sample were current smokers. Of those, 9.4% were cigarette smokers and 5.6% were waterpipe smokers. The researchers indicated that the most important predictors for smoking among the participants were: male gender and having a friend or family members who smoked (Mandil et al., 2007).

The prevalence of smoking by health care professionals in the USA was found to be low compared with health professionals in other countries. In the USA, one study conducted to identify knowledge, attitudes and believes related to smoking among health care professional in USA. Total 162 participants from American Indian and Alaska natives who attended health care conferences were included in the study. The researchers indicated that 11.1% of the total sample were current smokers, the prevalence of smoking among physicians was low (7.5%), and the majority of native American physicians reported that they asked the patients who smoked to quit smoking and also, they discussed with them the

adverse health hazards of smoking. Packer and colleagues (2005) noted that most of the participants were aware of the health consequences of smoking, the majority (98.7%) of the respondents believed that smoking could causes cervical cancer (70.2%), depression (54.5%). However there was low awareness about women's health hazards related to smoking (55.2%) (Packer et al., 2005).

In the USA, a randomized controlled trial was conducted by Froelicher et al. (2002) to describe the demographic, psychosocial and medical characteristics, and smoking patterns of women hospitalized with CVDs. A total of 277 women were selected from 10 hospitals in California. The selected women were enrolled in the Women's Initiative for Nonsmoking (WINS) trial during a 27 months period. The result of this study revealed that the women's ages ranged from 33 to 86 years, more than half (51%) of them were highly educated (college or higher level of education), 40% of the women were married, and 27% of the participants had income less than $15,000 per year. The researchers found that the median age when women started smoking was 18.6 years, the average number of years smoked was 40 years, more than three quarters (78%) of the participants had tried to quit smoking, about 43% of participants stated that they used their own methods to quit smoking, while only 17% of them agreed to use nicotine replacement therapy. The researchers found that 71% of the women rated 5 or greater out of 10 on the confidence scale (self efficacy) for quitting smoking, and 56.7% of the women reported high score of depression. Furthermore, the results indicated that the majority of the participants believed that they could avoid serious health problems if they quit smoking. A majority of the smokers intended to quit smoking (Froelicher et al., 2002). It is important to identify the intention of smokers to quit smoking in order to develop and design effective smoking cessation interventions (Girma, Assefa, and Deribew, 2010).

A cross- sectional study was conducted in South Korea to describe knowledge, attitude, and smoking practices among South Korean men (Sohn et al., 2007). A total of 97 men who were smoker from two university hospitals in Seoul, South Korea participated in this study. Their mean age was 54.1 (±SD 9.6) years. The majority of the smokers were married men (85.6%), 79.4% of them were employed, and approximately three quarters (74.2%) of them had high school or higher level of education (Sohn et al., 2007). The result of this study revealed that 65% of the respondents were found to be addicted on nicotine. The researchers stated that despite of the hospital no smoking policy, 22% of the men who were smokes reported that they had smoked during their hospitalization. Regarding their beliefs and behaviors about the adverse health effects of smoking, the researchers stated that men who were smokers had high knowledge about the health hazards of smoking, more than three quarters believed that quitting smoking strongly decreased the chance of respiratory diseases prognosis (87%), CVDs (78%), and 66% of smoker men believed that smoking cessation could reduce the risk of developing lung cancers. The researchers observed that the most frequently reported reason for smoking cessation was due to health (96%), more than half (53%) of the participants used their own way to quit smoking, 16% used snacks, and only 14% of them used nicotine replacement therapy (Sohn et al., 2007). Furthermore, men who smoked were highly motivated to quit; a majority (93%) of the participants intended to quit smoking in the future for better health; 51% were willing to attend in smoking cessation program during their hospitalization if such programs were available during their admission; and approximately three quarters (74%) of them reported moderately to high confidence about quitting within one month after discharge from the hospital; a majority (88.0%) of those who were willing to quit after discharge stated that they would use their own ways to quit smoking. The researchers found that the most common CVDs risk factors reported by Korean men were physical inactivity (58.9%), hypertension (46.4%), overweight (44.3%),

diabetes (29%), and hyperlipidemia (23.7%) (Sohn et al., 2007). Being married (OR: 5.54, 95% CI: 1.33, 23.08), being alcohol dependent (OR: 3.25, 95% CI: 1.20, 8.80), and starting smoking at age of 20 or less (OR: 2.96, 95% CI: 1.14, 7.68) were statistically significantly predictive of low confidence in quitting (Sohn et al., 2007). The results of this study indicated that a key priority must be to provide smoking cessation programs in the hospitals and Korean patients with CVDs are highly in need for such programs to enable them to quit smoking to improve their health and decrease the possibility of CVDs prognosis.

Studies indicated that the prevalence of smoking was found to be high among those who had low levels of education and those who lived in low income households (Park et al., 2010; Bachir and Chaaya, 2008). Park et al. (2010) examined how area deprivation and individual socioeconomic position influence smoking in women in Korea using the Korea National Health and Nutrition Examination Survey. This study demonstrated that a low level of education and livings in the least deprived areas were significantly associated with a higher prevalence of smoking. The researchers indicated that women with manual occupations, low level of education, and who lived in the least-deprived areas were found to have higher odd ratio of smoking (OR= 4.03; CI: 2.00, 8.14) compared with those who lived in the middle or most-deprived areas (OR= 2.12; CI: 1.15 to 4.16) (Park et al., 2010).

People with higher susceptibility to interpersonal influence are more likely to become regular smokers. Lavack and Kropp (2003) examined the relationship of smokers susceptibility to interpersonal influence and the prevalence of smoking patterns in Canada and South Korea. The researchers stated that the prevalence of smoking found to be high among individuals who were susceptible to interpersonal influence. Furthermore, the study indicated that female smokers were found to have a higher susceptibility to interpersonal influence than non-smokers, whereas males who were non-smokers were found to have a higher susceptibility to interpersonal influence than male smokers (Lavack and Kropp, 2003).

Studies showed that cigarette smoking was found to be higher in men than women in Arabic societies; it was more than five times as common practice in male than female smokers (Almerie et al., 2008; Abdallah et al., 2007; Haddad and Malak, 2002). A cross-sectional study was conducted in September 2008 to examine smoking use, beliefs, and attitudes among universities students in Syria (Almerie et al., 2008). A total of 570 students (303 males; 267 females) were randomly selected from University School of Medicine in Damascus, Syria. An Arabic version of anonymous self-administered questionnaire developed from GYTS and Global Health Professional survey (GHPS) was used for data collection. The results revealed that the prevalence of cigarette smoking and water pipe smoking by medical students was 27.1% (36.0% men, 13.6% women). The researchers observed that waterpipe smoking was more common in men (30.3%) compared to women students (13.4%). Both types of smoking (cigarette and waterpipe) were more popular among the fifth year students (42.4%) compared to the first year students (26.3%). The results of this study indicated that cigarette smoking was a daily practice while the waterpipe was an occasional practice. Almerie et al. (2008) found that the majority (90%) of smoker and non-smokers believed that smoking is an unacceptable practice in public places. Moreover, the results showed that approximately 50% of the participants believed that male smokers look less attractive whereas 80% believed that female smokers look less attractive. The researchers stated that approximately 75% of the respondents (smokers and non-smokers) believed that waterpipe smoking is more harmful than cigarette smoking. The results indicated that more than half of the students who were smokers believed that quitting smoking and waterpipe will be very difficult with no significant difference between smokers and nonsmokers (Almerie et al., 2008).

Little is known about the prevalence of smoking, attitudes and behaviors of smoking and quitting among adults in Arabic countries. Therefore, Al-Eisa et al. (2006) conducted a

cross-sectional study to asses the prevalence of smoking as well as behaviors and attitudes among health care workers in Kuwait. A total of 1,625 heath care providers were recruited from the Ministry of health hospitals and centers. Of those, 37.2% (n=604) were male and 62.8% (n=1021) were female. Data were collected from participants using self administered questionnaire consisted of three parts: sociodemographic characteristics, smoking behaviors and attitudes, and quitting behaviors and attitudes. The prevalence of smoking was found to be higher in men compared with women (37.3% men vs. 4.4% women). Participants with primary level of education or none (57.1% male vs. 25% female) had higher prevalence of smoking compared with those who had more than primary level of education. The results of this study indicated that married males were fourteen times more likely to smoke than married females (OR = 16.39; 95%CI, 10.36-26.12). Approximately, three quarters of smokers initiated smoking when they were younger than 20 years of age. The reported forms of smoking were: cigarettes 89%, Argileh 8.5%, and others 2.5%. Current smokers were found to be heavy or very heavy smokers, 21.5% of them smoked more than 30 cigarettes daily. The most common reasons to smoke given by current smokers were: 56% relaxation, 45.8% relieve boredom, 41.4% relieve anger and frustration, 32.6% concentration at work, 23.8% social situations, 20.5% enjoy pleasant events, and only 3.3% of the current smokers smoke to enhance self confidence. Of the current smokers, more than half (54.8%) reported that they smoked in the presence of their children. The investigators found that 64.8% of the current smokers wanted to quit and 70% had attempted to quit. The reported reasons that encouraged smokers to quit were health hazards of smoking (55.2%), scientific evidence of health effects of smoking, and 35.5% of participants stated that the reason for quitting was because of religion. However, findings indicated that health care providers particularly, nurses and physicians should receive a special training about smoking cessation interventions to help their patients to quit smoking successfully.

Knowledge, Attitudes and Beliefs about Smoking in Jordan

Despite the high prevalence of smoking in Jordan, little is known about smoking behaviors particularly among young people. Haddad and Malak (2002) conducted a study to estimate the prevalence of smoking and to describe the habits, attitudes and practices related to smoking among university students in Jordan. A total of 650 students from the medical and engineering colleges were randomly selected. The WHO Questionnaire related to smoking and attitudes towards smoking were used for data collection. The study indicated that the prevalence of smoking (28%) was found to be higher in males (50.2%) as compared to that in women (6.5%). The results revealed that 82.3% of the total sample had started the first smoke at 15 years of age; the most frequently reported reason of the first smoke was friends and family; men preferred smoking in the cafeteria (31%) while women preferred smoking in the bathroom (52%); the reported benefits of smoking were calming down, pleasure, and relief stress. Non-smokers stated that the adverse health effects of smoking were the main reason for being non-smoker. The results of this study showed that non-smokers had higher awareness and knowledge regarding health hazards of smoking, and had more positive attitudes against smoking. The researchers found that the main reasons why smokers did not want to quit were social attitudes, addiction, and not knowing how to quit smoking, and lack of knowledge about the adverse health effects of smoking (Haddad and Malak, 2002). Al-Kayed, Sawair, Burgan, and Khraisat (2005) assessed Jordanian awareness and knowledge related to health hazards of smoking among 524 subjects who were selected randomly from four main health care centers in the capital Amman. Of the sample, 42% were men and 57% were women. The participants' ages ranged from 18 to 69 years. Structured face to face interviews were used for data collection. The results of this study indicated that 40% of the participants were current smokers. The prevalence of smoking was higher in men (67%) than women (19.4%). The results revealed that the majority (98%) of respondents were aware of

the adverse health hazards of smoking. Approximately, 87% of the participants believed that smoking can cause lung cancer, 70% related to heart diseases, 40% related to hypertension, and about 35% of the subjects believe that smoking contributes to hypertension in particular (Al-Kayed et al., 2005). The results revealed by this study clearly indicated that there were serious deficits in awareness of health consequences of smoking, in which 60% of the smokers were unaware of the relationship between smoking and hypertension, one third of the participants reported knowledge deficits related to the link between smoking and heart diseases, and approximately on quarter of them did not believe that smoking can cause lung cancer (Al-Kayed et al., 2005). The results revealed from the study indicated that there is a need for health educational programs that discuss the health hazards of smoking.

Kofahi and Haddad (2005) conducted a cross-sectional study to identify knowledge and perceptions of lung cancer and smoking by university students in Jordan. A total of 400 students were randomly selected from the engineering college (n=240), medical and science colleges (n=160). A Lung Cancer and Smoking Survey based on the Health Belief Model was used for data collection, which is a reliable survey. The results revealed that 57.5% of the students believed that smoking is the main risk factor for developing lung cancer, and 53% believed that for people who smoked for long periods of time, there is little or no benefit from quitting smoking. The researchers indicated that non-smokers and former smokers were more knowledgeable than current smokers regarding the health hazards of smoking. The researchers observed that the most frequently quoted reasons for not quitting smoking were addiction and the influence of friends (Kofahi and Haddad, 2005).

A pilot study was conducted by Madanat et al. (2009) in Jordan to identify the smoking rate among college students at University of Jordan. A total of 296 students participated in the study. The researchers found that 70.3% of the total sample had Non-smoked, 26.9% were current smokers, and only 2.8% were former smokers. The study results showed that

former smokers/non-smokers reported a higher level of knowledge related to adverse health effects of smoking and a higher need for smoking related policies. This study indicated that the main reported reason for quitting smoking was the concern for health (63.6%). This study demonstrated that two methods were used by former smokers to quit smoking. The two methods were cold turkey (60.7%) and cutting-down smoking and then quitting by themselves (Madanat et al., 2009). Another recent study was conducted in Jordan by Haddad et al. (2010) to explore the knowledge, attitude, and beliefs about substance abuse among Jordanian adolescents using a sample of 400 randomly selected high school students. A self-administrated questionnaire was used for data collection. The researchers found that most of the students (91%) were aware of the adverse health effects of cigarette smoking such as heart and lung diseases. The researchers indicated that more than two-thirds (68.8%) of the subjects had limited knowledge about the tobacco addiction, they believed that nothing harmful would happen to a regular smoker if they quit smoking, and a smoking habit could be alleviated with the aid of counseling. The researchers found that the majority of the participants stated that they did not know any formal or informal organization that might provide assistance that might help them in quitting smoking, and the main sources of information regarding to the adverse health effects of smoking were from their parents, friends, and teachers (Haddad et al., 2010).

In Jordan, few studies discussed the patterns of smoking and perceptions of patients related to smoking particularly among CVDs patients. Recently, a descriptive cross-sectional study was conducted by Elshatarat (2010) to describe the pattern of smoking and to describe knowledge, attitudes, and beliefs related to smoking in patients hospitalized with CVDs in Jordan. A convenience sample consisted of 112 men who were recruited from two hospitals in the capital. Data were collected from the subjects using translated Arabic versions of Global Adult Tobacco Survey (GATS), Patient Health Questionnaire (PHQ), and questions

related knowledge about the benefits of quitting smoking were included. The results of the study indicated that the mean of age of the sample was 52.5 (±9.7) years, more than three quarters of the total sample were married, and approximately 68% were highly educated (Elshatarat, 2010). Regarding to risk factors associated with CVDs, the researcher found that 56.3% reported positive family history for CVDs, 55.4% had hypertension, approximately 40% reported that they had DM, and only 30.4% had hyperlipidemia. Furthermore, the researcher observed that 64.3% were overweight, and only 16.1% were obese. Unstable angina was the most common diagnosis on admission (28.6%), 24.1% had stable angina, 16.1 had a MI. The results indicated that cardiac catheterization and cardiac stent insertion were the most common invasive procedures performed on patients after admission (42.9% and 37.7%, respectively). The researcher indicated that the majority of the respondents were daily smokers (91.1%), 43.1% of them were heavy smokers, 61.6% of the participants were cigarette smokers, 18.8% smoked water pipe, and 9.8% stated that they used both cigarette and water pipe, and men reported that they initiated cigarette smoking at the age of 17 years (Elshatarat, 2010).

In terms of the perceptions of patients related to the health hazards of smoking, the results of this study indicated that more than half (52.3%) of the smokers believed that all types of tobacco were harmful, the majority (99%) of the men believed that smoking could cause respiratory diseases, CVDs (94.2%), and lung cancer (83.7%), and less than half (38.5%) of them believed that smoking could cause strokes (Elshatarat, 2010). The researcher found that approximately half of the men who smoked reported their willingness to quit cigarette smoking, the most frequently reported reasons for quitting smoking were the presence of health problems (97.6%), for better heath (95.2%), doctor's advice (94.0%), and only 22.6% stated that the cost was the reason for quitting smoking (Elshatarat, 2010). The results indicated that approximately 83.0% of the participants used their own way to quit

smoking, while one third of them used counseling and smoking cessation programs. According to the PHQ-9 scores, the researcher indicated that 59.5% of men who smoke reported that they had mild depression and the mean (±SD) PHQ-9 score was 6.8 (±3.2). In this study, multiple logistic regression analysis was performed to identify the potential predictors of confidence in willingness to quit smoking, the results showed that subjects with high income, with longer hospitals admission, in acute cardiac wards, and a diagnosis of acute CVDs were statistically significant with willingness to quit smoking (Elshatarat, 2010).

Benefits of Smoking Cessation

Despite of the harmful effects of the chemicals produced from smoking, benefits of smoking cessation are substantial; the risk of developing CVDs drops relatively soon after quitting smoking (Frothingham, Payne, and Meadows, 2008). According to the WHO, after one year of not smoking, the risk of CVDs decreases by 50%. Following angioplasty or coronary artery bypass graft surgery (CABG) to repair narrowed or blocked arteries, quitting smoking can decrease the risk of those arteries narrowing again and the risk of death is higher if a person continues to smoke than if they quit (Taira et al., 2000). Patients who quit smoking for long periods after CABG surgery have been found to have decreased morbidity and lower rates of repeated revascularization surgery, and patients who continued to smoke after CABG had a greater risk of death and a higher rate of repeated revascularization surgery (US Department of Health and Human Services, 2004). Cessation of smoking is therefore strongly recommended after CABG (van Domburg et al., 2000). Non-smokers also had fewer CHD-related admissions than smokers (Frothingham, Payne, and Meadows, 2008). The relationship between cigarette smoking and the development of CVDs has been well documented. Smoking cessation reduces overall mortality more than other forms of secondary prevntion (AHA, 2006). A Cochrane Heart Group meta-analysis examined all-

cause CHDs mortality in 20 cohort studies (n=12,603 patients) and found a 36% reduction in risk of mortality for CHDs patients who quit smoking compared with those who did not quit (Frothingham, Payne, and Meadows, 2008).

Quitting smoking is probably the most important step that can be taken to decrease the chance of a subsequent heart attacks (Boutayeb and Boutayeb, 2005). Smoker patients with CVDs will have a 50% decline in risk of reinfarction and sudden cardiac death if they stop smoking directly after the occurrence of CVDs (Ockene and Miller, 1997). Furthermore, patients with CVDs who continue smoking after the initial of CVDs are more likely to re-hospitalize due to recurrent episodes of CVDs events (Mohiuddin et al., 2007). Critchley and Capewell (2003) conducted a systemic review to assess the benefits of smoking cessation interventions in reduction in the mortality rate in participants who smoke with CVDs and found that the total reduction in mortality rate was 36% (Critchley and Capewell, 2003).

Decreased prevalence of the main CVDs risk factors have contributed to declining mortality rate in the Western world from CVDs since the beginning of the 1970s. Prevention programs in which people were encouraged to reduce their risky behaviors that contribute to the development of CVDs have been launched during the past 30 years (Smith, 2007). These prevention programs have focused primarily on disseminating information about CVDs risk factors such as obesity, smoking, lack of exercise, eating high fatty food, hypertension, consuming excessive amounts of alcohol and having elevated blood cholesterol levels (Achidi and Tangoh, 2010). About 70% of premature deaths related to CVDs can be prevented by modifying these risk factors (Khan et al, 2006).

In the USA, randomized controlled study conducted by Froelicher et al. (2004) to examine the efficacy of smoking- cessation interventions in American women diagnosed with CVDs. A total of 277 women who were admitted to one of 12 hospitals in San Francisco were selected randomly to participate in the study. Of those, 135 were assigned to be in usual

group (UG), and 142 were in intervention group (G). Those who were in UG received brief counseling and strong physician advice, copy of self-help pamphlet, and list of local community programs and classes regarding to the benefits of smoking. While, those who were in IG received a nurse managed smoking cessation intervention at bedside, followed by brief telephone counseling sessions contact at intervals after discharge from hospitals. Women in both groups (UG vs. IG) were interviewed to assess smoking status at 6, 12, 24, and 30 months. The researchers found that smoking cessation rate in the UG (40.8%, 41.6%, 46.2%, and 50.0%) while in IG (51.5%, 47.6%, 48.5%, and 50.0%) (Froelicher et al., 2004). The findings from this study suggested that initiation of smoking cessation programs during hospitalization and after discharge is highly effective in helping CVDs patients to quit smoking. Furthermore, a healthcare provider particularly nurses and physicians must make smoking cessation interventions a high priority.

Summary and Conclusions

The literature shows that knowledge deficits exist with regards to smoking and its harmful effects on health. Quitting smoking is beneficial at any stage. Patients with CVDs must be offered assistance with regards to quitting smoking. Several factors can play key roles in assisting smokers in smoking cessation. These factors are: lack of knowledge of benefits of quitting, presence of depressive symptoms, lack of social support, and being surrounded by other smokers in the home or workplace. Only a limited number of studies exist in Jordan about risk factors of CVDs in relation to smoking. Therefore, this study will examine smoking patterns and smoking cessation-related factors in patients with CVDs. Findings from this study can provide information to guide evidence-based interventions. Such information is likely to prove useful for the health care team in identifying better strategies

for smoking cessation that will lead to the reduction of smoking in patients with CVDs and subsequent acute cardiac events in the population.

Chapter Three

Methodology

This section presents the design and methods used in this study to answer the research questions that aimed to assess smoking patterns and smoking-related knowledge, attitudes, and beliefs of subjects with CVDs in Jordan.

Design

A descriptive cross-sectional survey was used to assess the patterns of smoking and smoking-related knowledge, attitudes, and beliefs in subjects hospitalized with CVDs in Jordan. The rationale for choosing this design is that this design can describe the problem of interest for a Jordanian sample of subjects with CVDs diagnosis or with some aspects of a problem that are not completely understood (Pilot & Beck, 2008).

Sample and Setting

The sample was recruited from consecutive subjects who had been admitted to the medical and surgical cardiac wards and the Coronary Care Unit (CCU) at Queen Alia Heart Institute (QAHI) which located at King Hussein Medical Center (KHMC). The KHMC is the largest hospital complex of the Royal Medical Services (RMS). It is situated in the capital of Jordan, Amman. Total bed capacity is 1,200 beds of various specialties with 180 beds allocated to cardiac patients located at the QAHI. The KHMC is the major referral center for subjects with CVDs in Jordan and also include the indigent populations who have no other health insurance or access for treatment.

The sample size was estimated to be 250 subjects using Martin, Meek, and Willeberg's

(1987) equation. Sample size (n) = $(1.96)^2$ PQ/L^2, P = a conservative estimate of the smokers who have CVDs diagnosis in Jordan (20%), L= required precision and Q= 1-P = (0.80). Sample size n= $[(1.96)^2 (0.20) (0.80)] / (0.05)^2$ = 250 subjects. The sample size was increased to 351 subjects to ensure the presence of adequate numbers of men and women subjects within subgroups with specific demographic characteristics and smoking status.

The sample consisted of adults who spoke Arabic and who were 18 years of age or older, those who had been admitted to QAHI with the diagnosis of CVDs including CADs (stable angina, unstable angina, and myocardial infarction), heart failure, atherosclerosis, cardiomyopathy, endocarditis, valvular heart disease, percutaneous transluminal coronary angioplasty (PTCA), acute coronary syndrome (ACS), and coronary arterial bypass graft (CABG). Smokers, former smokers and non smokers who met the inclusion criteria were included in this study. A smoker is someone who smoked at least 100 cigarettes in their lifetime and had smoked in the past one month, where a former smoker is someone who had smoked at least 100 cigarettes in their lifetime but who had not smoked, not even a puff in the past seven days (WHO, 2004).

Subject in unstable condition and who had debilitating illness at the time of data collection which prevented the completion of a formal interview were excluded from the study. The researcher asked the nurses who provided care for the eligible subjects to confirm that they were physically, mentally, and medically stable and that the subject has met the mental status criteria.

Data Collection Procedures

The subjects for this study were recruited from military hospital in Amman, Jordan between 8th of February, 2010 to 5th and August. The written informed consent was reviewed by the researcher, the purpose of the study also explained by researcher, the eligible person

provided with all necessary information about the study, and the researcher answered all subjects' questions. Informed consent was secured from those who agreed to participate in the study. Data were collected directly by researchers in which all subjects were interviewed in their private rooms. Traditionally, there are some social limitations which may negatively affect a male researcher approaching a female subject therefore, it was decided to train female interviewers to collect data from female subjects, and this step was taking any possible bias in data collection. The Global Adult Tobacco Survey (GATS) core questionnaire with optional questions (Kaleta, Kozieł, and Miśkiewicz, 2009; CDC, 2008), the Patient's Health-9 questionnaire (Gilbody et al., 2007; Lichtman et al., 2008), Enhancing Recovery in Coronary Artery Disease (ENRICHD) Social Support Instrument (ESSI) scale (Mitchell et al., 2003); additional questions about knowledge, attitudes, and beliefs about smoking and about the benefits of smoking cessation, and items from Fagerstorm instruments that measures nicotine dependence (Heatherton, Kozlowski, Frecker, and Fagerström, 1991) were used to collect data through structured interview. The data collectors asked each question and secured an answered from each subject.

Research Instruments

The Global Adult Tobacco Survey (GATS)

The GATS was used as a measurement tool of smoking patterns. GATS is part of the Global Tobacco Surveillance System (GTSS) developed by WHO, CDC, and the Canadian Public Health Association (CPHA). The GATS was developed in 2007 to be used as a nationally representative household survey (Kaleta, Kozieł, and Miśkiewicz, 2009).

The GATS enables countries to collect data on adult tobacco use and key tobacco control measures. Results from the GATS were included to assist in the formulation, tracking and implementation of effective tobacco control interventions, and will yield results that can

be compared with results from other countries (Elshatarat, 2010; Bader et al., 2007; Islam and Johnson, 2005; Behbehani, Hamadeh, and Macklai, 2004; Chaaya, Jabbour and El-Roueiheb, 2004; Almas et al, 2003). The GATS has been used in many of developing countries including Egypt and Turkey (CDC, 2008).

The content validity of the instrument was established in the current in which minor modifications for certain translated questions were made based on the suggestions of a panel of experts who were selected based on their qualifications and experience in nursing research and education in Jordan. After revision, the modified GATS contained 65 items. The questionnaire is divided into six sections: 1) demographic data, 2) disease history, 3) smoking patterns, 4) passive smoking, 5) knowledge, attitudes, and beliefs about smoking, and 6) past smoking patterns. Demographic data included age, gender, height, weight, marital status, level of education, and living arrangement. Smoking history included, smoking status, whether the subject was a current smoker, former smoker or nonsmoker, patterns of smoking, serious attempts to quit smoking, and reasons for quitting and relapse to smoking, and knowledge or awareness of existing smoking cessation programs. The subjects were asked when would be the best time to carry out the interview and arrangements were made to meet their requests. Three knowledge questions were used to assess knowledge, attitudes, and believe of the subjects regarding to the health hazards of smoking. Those questions were developed and validated in 1989 by National Cancer Institution's Community Intervention Trial for Smoking Cessation (CDC, 1990). The three knowledge questions were used in many studies aimed to assess smokers' beliefs about the health consequences of smoking (Sohn et al., 2007; Froelicher et al., 2004)

Assessment of Symptoms of Depression

The Patient's Health Questionnaire (PHQ-9) is a brief depression screening instrument (Appendix A) (Gilbody et al., 2007; Lichtman et al., 2008). The PHQ-9) has validity and utility for diagnosing mental disorders in primary care (Spitzer, Kroenke, and Williams, 1999). Also, it is valid and reliable measure of the severity of depression (Kroenke, Spitzer, and Williams, 2001). Most subjects in general are able to complete it without assistance in less than five minutes. It yields both a provisional depression diagnosis and a severity score that can be used for treatment selection and monitoring. The PHQ-9 has been shown to have good sensitivity of 0.80 (95% CI = 0.71, 0.87) and specificity of and reasonable specificity 0.92 (95% CI = 0.88, 0.95) for subjects with CADs (Lichtman et al., 2008; Gilbody et al., 2007; McManus, Pipkin, and Whooley, 2005; Lichtman et al., 2008). Items were summed to create a total score (range: 0.0–27.0). The response categories range from 0 (not at all) to 3 (nearly every day). To assess the severity of depression the PHQ-9 scores were categorized into three categories (0.0–9.0 = minimal symptoms of short duration; 10.0-19.0 = mild to moderate depression; 20.0-27.0= major depression) (Kroenke, Spitzer, and Williams, 2001). For the purpose of logistic regression analysis, the PHQ-9 was further categorized based on PHQ-9 scores into presence of depression = 1 (10-27), and absence of depression = 0 (0-9) (Lichtman et al., 2008).

The PHQ-9 can provide a useful initial assessment, but it must be recognized that depressive symptoms may present within the context of a complex medical conditions (Stafford, Bark, and Jackson, 2007). Subjects with screening score that indicate a high probability of depression (PHQ-9 score of 10 or higher) should be evaluated clinically by the health care providers who is qualified in the assessment and treatment of depression (Lichtman et al., 2008). Internal consistency for the PHQ-9 using Cronbach's Alpha was 0.86

with a sensitivity of 95% (Lowe et al., 2006). Permission was obtained to use, translate, and modify the instrument for the purpose of the current study (Appendix E).

Assessment of Social Support

Some evidence suggests that social support has been found to be an important predictor in the smoking cessation programs and it is considered as one of the most important factors that determine the success of smoking cessation interventions (Vaglio et al., 2004; Park et al., 2004 May and West, 2000).

The Enhancing Recovery in Coronary Artery Disease (ENRICHD) Social Support Instrument (ESSI) scale was used to measure social support in subjects with myocardial infarction (Mitchell et al., 2003). The instrument has strong validity and reliability (Johnson et al., 2010; Vaglio et al., 2004). The response categories range from 1 (none of the time) to 5 (all of the time). Items were summed to create a score (range: 8.0–34.0); greater scores indicated greater social support (Johnson et al., 2010). The ESSI scores are originally variables; however, for the purpose of logistic regression analysis they were dichotomized based on a median as a cut point (8.0–23 = low support; 24.0–34.0 = high support (Johnson et al., 2010). The internal consistency for the ESSI, using Cronbach's Alpha was 0.88. The inter-item correlations were examined, with significant associations being found between all items and item-total score ($p < 0.001$) (Vaglio et al., 2004). Permission was obtained from the auther to use, translate, and modify the instrument for the purpose of the current study (Appendix E).

Methods of Translation

The instruments were translated into Arabic using a comprehensive procedure as outlined by Beaton et al. (2000). This procedure requires translation of the instruments from

English to Arabic, then back-translation from Arabic to English to ensure the correct interpretations of items and to validate equivalence. The English and Arabic versions with the original instruments were reviewed by a group of six experts in the topic and competent in both Arabic and English languages to determine the extent to which the two versions yielded similar findings. Three experts independently translated the instruments to Arabic and the other three back translated the instruments to English to insure equivalence in the tools. Minor modifications were made to enhance the meaning of some items in Arabic according to the experts' recommendations. The English versions for the instruments are provided in Appendix (A) and Arabic version provided in Appendix (B).

Pilot Study

The three instruments (GATS, PHQ-9, and ESSI) were pilot tested with 30 subjects who met the inclusion criteria. The purpose of the pilot study was to test the adequacy of the data collection plan, identify ambiguities in questions, establish the time required for completion of the questionnaire, any difficulties that might be encountered by the subjects in understanding the questionnaires, and to establish the female research assistants reliability during the data collection procedure. All patients who met the inclusion criteria and who were admitted to the medical and surgical cardiac wards and the CCU were approached by researcher for participation in the study. Those who agreed to participate were recruited and interviewed at the bedside. Self-reported data were collected using a structured interview to avoid missing data and to assist subjects in understanding research questions better. The questionnaire used in this study had a structured format for asking all subjects the same questions in a consistent manner. Data were collected from subjects who were men by the primary investigator and from women subjects by four research assistants (nurses who were women). Interrater reliability for data collection was assured by the researcher. Research

assistants received training to ensure standardization of data collection methods. Researcher assistants were observed by the primary researcher during data collection. Data collected by research assistants were compared by data collected by the primary researcher from the same patients in order to reach consensus, share a common interpretation, nonoverlaping, and assure consistency of data collection procedures. The pilot study showed that the questionnaire was clear, easy to understand, and required around 30-40 minutes to be completed. The internal consistency for GATS using Cronbach's Alpha was 0.76, for PHQ-9 was 0.92 and for ESSI was 0.79. The 30 subjects who participated in the pilot study were included in the study sample.

Ethical Considerations

Approval to conduct the study was first obtained from the Scientific Research Committees of Faculty of Nursing at the University of Jordan. Approval was also obtained from the Research/Ethics Committee at RMS. Anonymity and confidentiality of the respondents were ensured throughout the study. Data collection methods were designed to protect the confidentiality of the information obtained by assigning a numerical code for all data collection forms. Data were secured, saved on the researcher's personal computer and password protected; the hard copies were stored in a locked cabinet. No one, except the investigator and his supervisors, had access to that data. Respondents were advised that they are not obligated to be part in the study, and that their participation was voluntary. Also, they could withdraw from the study at any time without any consequences to their medical care. Also the consent form included a question in the end that asked *"Would you be willing to be contacted for any future studies"*. If the response was yes, the list of contact information was retained separately from their data to ensure confidentiality. The English version of consent form provided in Appendix (C), while the Arabic version provided in Appendix (D).

Data Management and Analyses

The Statistical Package for Social Science (SPSS) version 15 was used for data entry, data management, and analysis to answer the research questions (Nie, Bent, and Hull, 1970). The level of significance for the statistical analysis was Alpha = 0.05. Careful data screening took place first to identify missing values, inconsistent values, and errors. Descriptive statistics were used to describe the data using measures of ranges and standard deviations [SD]) and frequencies and percentages. Frequencies were used to determine: 1) smoking status; 2) smoking patterns; 3) rules and smoking policies applied inside subjects home and in the work place; 4) willingness to make a serious attempt to quit smoking; 5) the methods were used in quit smoking; 6) the reason for quitting and the reason for relapse in the last quit attempt; 7) withdrawal symptoms experienced during the last quit attempt; 8) knowledge, attitudes, and beliefs about serious health problems caused by cigarette smoking; 9) knowledge, attitudes, and beliefs about the benefits of quitting cigarette smoking. The responses to questions were rank ordered to determine which items were the most frequently occurring. Cronbach's alpha reliability and internal consistency were evaluated.

A logistic regression analysis was conducted to identify their confidence in willingness to quit smoking and seven independent variables: those who answered the three knowledge questions [Do you think that you will avoid or decrease serious health problems if you quit smoking? Person who smoked for more than 20 years do you think that there is very little or no benefit to quitting? Is smoking harming your health?] Symptoms of depression, number of people who smoke in the household, social support, and educational level. The three knowledge questions aimed to assess smokers' attitudes and beliefs about hazards of smoking and the health benefits of smoking cessation. These three questions have been used in previous studies (Froelicher et al., 2004; Asfar et al., 2005; Sohn et al., 2007).

Variables were coded for logistic regression. Answers to the questions ‘Do you think that you will avoid or decrease serious health problems if you quit smoking?’ and ‘is smoking harming your health?’ were coded as follows: ‘strongly agree’ and ‘agree’ both took the value of zero (0) whereas the responses ‘neither agree nor disagree’, ‘strongly disagree’, and ‘disagree’ all took the value of one (1).

Answers to the question ‘For a person who smoked for more than 20 years do you think that there is very little or no benefit to quitting?’ were coded as follows: ‘very likely’ and ‘likely’ both took the value of one (1) and ‘neither likely nor unlikely’, ‘unlikely’, and ‘very unlikely’ all took the value of zero (0). Response to the question ‘number of people who smoke in the household were coded as zero (0) for the reply of ‘none’ and one (1) for the reply of ‘one or more’. Symptoms of depression were coded as follows: zero (0) for ‘absence of depression’, one (1) for ‘presence of depression’. Social support was coded as zero (0) for ‘high support’ and one (1) for ‘low support’. Educational level was coded as zero (0) for ‘high school or more’ and one (1) for ‘less than high school’. The dependent variable ‘Are you wiling to make a serious attempt to quit?’ was coded as zero (0) for ‘yes’ and one (1) for ‘no’, as demonstrated in Table (1). In the next chapter the results answering each of the research questions are presented.

Table (1)

The Coding of Variables for Logistic Regression

Variable	**Coding**
Dependent variable	
Are you wiling to make a serious attempt to quit?	Yes = 0
	No =1
Independent variable	
Do you think that you will avoid or decrease serious health problems if you quit smoking?	Strongly agree, agree=0
	Neither agree nor disagree, strongly disagree and disagree= 1
For person who smoked for more than 20 years, Do you think that there is very little or no benefit to quitting?	Very likely, likely= 1
	Neither likely, nor unlikely, unlikely, and very unlikely =0
Is smoking harming your health?	Strongly agree, agree=0
	Neither agree nor disagree, strongly disagree, and disagree= 1
Number of people who smoke in the household	None=0
	One or more=1
Symptoms of depression	Presence of depression = 1 Absence of depression = 0
Social support	Low support=1 High support=0
Educational level	High school or more =0
	Less than high school=1

Chapter Four

Results

This chapter presents the results of the study. The first section describes the smoking status of the subjects by gender, sociodemographic, and clinical characteristics of the subjects. The second section presents answer to each of the specific research questions.

Data were collected from 8th of February, 2010 to 5th and August, 2010. The researcher approached 360 eligible subjects with the diagnosis of CVDs who were admitted to the medical and surgical wards and CCU. Seven of them declined to participate in the study (five were men and two were women), and only two subjects (men) did not complete the interview; one of them had chest pain at the time of interview, while the other one was asked to prepare himself for discharge; a total of 351 subjects participated in the study with 97.5% responsive rate (97.6% men vs. 96.9% women) More than three-quarters 82.3% (n=289) were men and 17.7% (n=62) were women. A quarter, 25.4% (n=89) had non-smoked, 34.5% (n=121) were former smokers, and 40.1% (n=141) were current smokers as demonstrated in Table (2).

Table (2)

Smoking Status by Gender (n=351)

	Gender					
	Men		**Women**		**Total**	
Smoking status	**%**	n	**%**	n	**%**	n
Non-smoker	25.2	73	25.8	16	25.4	89
Former smoker	35.0	101	32.3	20	34.5	121
Current smoker	39.8	115	41.9	26	40.1	141
Total	100	289	100	62	100	351

The Sociodemographic Characteristics

The subjects ranged in age from 18 to 78 years, with a mean age of 53.77 (±SD 11.32) years and median age of 55 years. The majority of the subjects were married 89.2% (n=313) and 10.8% (n=38) were single, widowed, or divorced. The majority of the subjects reported that they were living with someone 94.3% (n=331), while others 5.7% (n=20) lived alone. A large proportions of the subjects had high school or higher level of education 61.8% (n=217), 38.2% (n=135) had less than high school education. Work status of the subjects showed that 40.7% (n=143) were employed, 34.8% (n=122) were unemployed (home workers, disabled, or students), and the remainding 24.5% (n=86) were retired. Table (3) shows the sociodemographic characteristics of the subjects.

Table (3)

Sociodemographic Characteristics of the Subjects (n=351)

Sociodemographic characteristics		**%**	n
Marital status	Married	89.2	313
	S/W/D*	10.8	38
Living arrangement	Living with someone	94.3	331
	Living alone	5.7	20
Education	Less than high school	38.2	134
	High school or higher	62.8	217
Work status	Employed	40.7	143
	Unemployed/Home workers/disable/student	34.8	122
	Retired	24.5	86

*Single, Widow, Divorced" S/W/D

The Clinical Characteristics

The most common diagnosis at the time of admission was angina 65% (228), 24.2% (n=85) MI, 4.0% (n=14) heart failure, and other heart related diseases were reported by 6.8% (n=24) (Tab1e 4). The most common invasive cardiac procedures or surgical interventions

performed on subjects were stent insertion 49.4% (n=163), a large proportion of the subjects had more than one therapeutic procedure. Table (5) shows the invasive cardiac procedure or surgical intervention.

Table (4)

Clinical Characteristics of the Subjects by Disease (n=351)

Diagnosis on Admission	%	n
Angina	65.0	228
Myocardial Infarction	24.2	85
Congestive heart failure	4.0	14
Other heart disease	6.8	24
Total	100	351

Table (5)

Invasive Cardiac Procedures or Surgical Interventions (n=351)

Therapeutic Procedures	%	n
Cardiac catheterization	39.3	138
Angioplasty	17.7	62
Stent insertion	49.4	163
CABG*	39.0	137
Other treatments	5.4	19

* Coronary Artery Bypass Grafting (CABG)

In addition to a high frequency of smoking (40.1%), those subjects also had a high proportion of all other CVDs risk factors. More than half of the subjects reported that they had hypertension 53% (n=186), and hyperlipidemia 47.9% (n=168). Family history of heart disease was reported in 42.2% (n=148) for either mother or father, or both; and 45 % (n=158) of siblings had history for heart disease. It was of note that the reported family histories tended to be much higher in the fathers and brothers than mothers and sisters. Subjects

reported less frequently the presence of DM 37.9% (n=133) or sedentary lifestyle 32.5% (n=114). Body mass index (BMI) for subjects ranged from 20,06 kg/cm^2 to 41.20 kg/cm^2, and mean BMI for the subjects was 28.01(±3.98). Approximately 44.2% (n=155) of the subjects were categorized as over weight and 26.5% (n=93) were obese (Table 6).

Table (6)

Cardiovascular Risk Factors of the Subjects (n=351)

Risk factors	**%**	**n**
Hypertension	53.0	186
Hyperlipidemia	47.9	168
Diabetes mellitus	37.9	133
Body Mass Index (BMI) kg/cm^2		
Normal weight (18.5-24.9)	25.1	88
Over weight (25 -29.9)	44.2	155
Obese (30- 39.9)	26.5	93
Morbidly obese (≥ 40)	4.2	15
Sedentary lifestyle	32.5	114
Family history		
CVD in parent only	42.2	148
CVD in sibling only	45	158

History and Patterns of Smoking: Current Smokers Only

Age of initiation of smoking (current smokers only) ranged from 10 to 40 years; mean= 19.13 (± 5.45), median=18, and mode=20. Men initiated smoking at earlier ages, compared to women who ranged in age from 10 to 30 years and 18 to 40 years, respectively. Table 7 provides the smoking history and patterns of smoking for current smokers 40.1% (n=141). The reported forms of smoking were: cigarettes only 75.9% (n=107); argileh only 3.5%

(n=5); and both cigarettes and argileh 20.6% (n=29). Smokers were characterized to be heavy or very heavy smokers (smoked at least two packs/ day).

In responses to the question "How soon after you wake up do you usually have your first smoke", the responses showed that a large proportion of the subjects needed to have their first cigarette when they first open their eyes in the morning (n=56, 39.7%). Most of the subjects 78.0% (n=110) answered that they [sometime/ usually/ always] continued to smoke when they were ill.

Out of the current smokers, 56.7% (n=80) had smoked on a regular basis during their hospitalization. Nearly half of the current smokers 48.2% (n=68) had not smoked during their current hospitalization; 27.0% (n=38) of the smokers had smoked in the cafeteria or in the lounge; 16.3% (n=23) smoked in their rooms; and only 8.5% (n=12) smoked outside the hospital. Approximately, 83.0% (n=117) of the current smokers were advised by their doctors and/or their nurses that they should not smoke, but only 27.7% (n=39) of the smokers had received any assistance from their doctors and/ or nurses on how to stay off the cigarettes while they were hospitalized. More than half of the current smokers 54.0% (n=76) were asked if they smoked when they visited their doctors or other health care providers in the past 12 months. Only 45.4% (n=64) of them were advised to quit smoking by their doctors or other health care providers. Table (7) shows the history and patterns of the smoking for current smokers only.

Table (7)

History and Patterns of the Smoking for Current Smokers (n=141)

History and patterns of the smoking	**%**	**n**
Forms of smoking		
Cigarette only	75.9	107
Argileh only	3.5	5
Argileh and cigarettes	20.6	29
Amount of cigarette smoked each day		
Half pack (10)	5.0	7
One pack (20)	31.9	45
Two packs (40)	60.3	85
Other	2.8	4
Time when 1st cigarette is smoked		
First opened eyes	39.7	56
Within the first 15 minutes	8.5	12
Between 16-30 minutes	12.8	18
Between 31-60 minutes	24.8	35
Between 1-2 hours	9.9	14
After two hours	4.3	6
Since you have been admitted, have you been smoking on a regular basis?		
Yes*	56.7	80
No*	43.3	61
History of Smoking and Patterns of the Smoking		
Do you smoke on the days that you are so ill that you are in bed most of the day?		
Never or rarely	22.0	31
Sometime, usually, always	78.0	110
Area where they smoking	27.0	38
Out side the hospital	8.5	12
Cafeteria, lounge	27.0	38
In their rooms	16.3	23
None	48.2	68
During your current hospitalization, did your doctor or nurse discuss with you that you should not smoke?		
Yes*	83.0	117
No*	17.0	24

Continue of table (7)

History and Patterns of the Smoking for Current Smokers (n=141)

History and patterns of the smoking	%	n
Did your doctor offer you any assistance on how to stay off the cigarette?		
Yes*	27.7	39
No*	72.3	102
Number of visits to doctor or health care provider in the past 12 months		
None	18.4	26
1-2 time	68.8	97
3 or more	12.8	18
During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke tobacco?		
Yes*	54.0	76
No*	46.0	65
During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?		
Yes*	45.4	64
No*	54.6	77

*All percentages add up to 100%; therefore only % for yes are reported here

History and Patterns of Smoking: Former Smokers Only

Age of initiation of smoking (former smokers only) ranged from 6 to 42 years; the mean= 19.42 (± 6.57). Age of initiation of smoking for men ranged from 6 to 40 years; the mean=17.80 (±5.10); and the range of age was 15 to 42 years for women; mean=27.60 (±5.7.21). About 58.7% (n=71) of the former smokers had stopped smoking for one or more than one year ago; 38% (n=46) had stopped smoking for months or more, but less than one year; and only 3.3% (n=4) had stopped smoking for weeks. Furthermore, 66.9% (n=81) of the former smokers stopped smoking suddenly; while the other 33.1% (n=40) had stopped gradually, and 45.5% (n=55) of those who stopped smoking suffered a lot from symptoms like nervousness and inability to concentrate. Health problems were the main reason for quitting in 85.1% (n=103); 27.3% (n=33) had stopped due to the cost; 25.6% (n=31) had

stopped smoking because of their religion; 19% (n=23) had stopped because their family members asked them to quit; and only 10.7% (n=13) had stopped smoking for no particular reasons. The results showed that 60.3% (n=73) of the former smokers were advised to quit smoking by family members, 57% (n=69) were advised by their doctors, 37.2% (n=45) were advised by their nurses, and only 18.2% (n=22) were advised by their friends.

Willingness to Quit Smoking and Smoking Cessation: Current Smokers Only

The results indicated that 73.8% (n=104) of the current smokers reported their willingness to quit smoking stated. More than three quarters of the current smokers 78% (n=110) had heard about smoking cessation programs. The majority 95% (n=139) of the current smokers tried to stop smoking. Of these 40.4% (n=57) stopped smoking for one month, 36.9% (n=52) stopped for weeks, and 22.7% (n=32) had stopped smoking for a days or less than a day. The results demonstrated that 94.3% (n=133) of the current smokers used their own ways to quit smoking. The most important reason for the last attempt to quit smoking was their health 86.5% (n=122), 7.8 % (n=11) stated that their quit attempt was initiated after a previous hospitalization experience, and 5.7% (n=8) had stopped smoking due to religious reasons. Withdrawal symptoms (craving, anxiety, and mood changes) were the main reason 49.6% (n=70) for relapse during the last quit attempt; 21.3% (n=30) stated due to social situations, and the other 29.1% (n=41) stated that the reason for relapse in the last quit attempt was due to a crisis, boredom, and/or suggestions by friends. When asked "did the doctor, nurse, pharmacist, or dentist advice you to quit smoking?", the responses showed that 81.1% (n=113) were advised by their doctors; only 46.1% (n=65) were advised by their nurses, 14.2% (n=20) stated that they were advised by dentist, and only 5% (n=7) were advised by a pharmacist to how to quit smoking (Table 8).

Table (8)

Responses of Smokers Regarding to Smoking Cessation (n=141)

Responses of Smokers		**%**	n
Are you wiling to make a serious attempt to quit?	Yes*	73.8	104
Have you ever heard of smoking cessation programs?	Yes	78.0	110
During the past 12 months have you tried to stop smoking?	Yes	95.0	139
During the past 12 months did you use one of the following to quit smoking?			
Your own way	Yes	94.3	133
Smoking cessation program	Yes	2.1	3
Counseling	Yes	1.4	2
Nicotine replacement therapy	Yes	5.7	8
Switching to argileh	Yes	7.1	10
Acupuncture	Yes	0.7	1

*All percentages add up to 100%; therefore only % for yes are reported here

Rules of Smoking inside Subject's Homes and their Workplaces

The results showed that less than half 40.7% (n=143) of the total sample had worked outside their home and 78.3% (n=112) of those worked indoors. Approximately, 62.9% (n=90) of those who worked indoors reported that smoking was allowed anywhere at work, a quarter of the subjects 25.2% (n=36) stated that smoking was only allowed in outdoor areas, and only 11.9% (n=17) of the subjects reported that smoking was not allowed in any indoor areas. A large proportion of the total sample 72.1% (n=253) lived with one or more persons in the household who smoked (secondhand smoker). Nearly three-quarters of the subjects 72.6% (n=255) reported that smoking was allowed inside their homes and 60.1% (n=211) reported that smoking was allowed in every room inside their homes. In response to the question "During the past 30 days, did you see anyone smoke inside any governmental building or office?" The responses showed that 65.5% (n=230) of the subjects answered "yes". In response to the question "During the past 30 days, did you see anyone smoke inside

of any healthcare facilities?", the responses showed that 47.3% (n=166) of the total sample reported having noticed other people smoke inside a health care facilities (Table 9).

Table (9)

Rules about Smoking inside Subject's Homes and their Workplaces

Rules about Smoking (n=351)	**%**	**n**
Rules about Smoking in subject's home		
How many people in your household who were smoke		
None	27.9	98
One or more	72.1	253
Is smoking allowed inside your home?		
Allowed	72.6	255
Not allowed, but exceptions	13.7	48
Never allowed	13.7	48
Inside your home, is smoking allowed in every room? Yes*	60.1	211
How often does anyone smoke inside your home?		
Daily	65.0	228
Weekly	11.1	39
Monthly	7.4	26
Rarely	16.5	58
Rules about smoking in subject's workplace		
Do you currently work outside of your home? Yes	40.7	143
Do you work indoors or outdoors? (n=143)		
Indoors	78.3	112
Outdoors	18.9	27
Both	2.8	4
Describes the indoor smoking policy where you work (n=143)		
Not allowed in any indoor areas	11.9	17
Allowed only outdoors	25.2	36
Allowed anywhere	62.9	90
During the past 30 days, did anyone smoke indoors where you work? Yes	74.1	106
During the past 30 days, did you see anyone smoke inside of any government building or governmental offices? (n=351). Yes*	65.5	230
During the past 30 days, did you see anyone smoke inside of any healthcare facilities? (n=351). Yes*	47.3	166

*All percentages add up to 100%; therefore only % for yes are reported here

Knowledge, Attitudes, and Beliefs

In response to the three knowledge, attitudes, and beliefs questions, a high proportion of the subjects knew that the smokers would avoid or decrease serious health problems by quitting smoking. Non-smokers had the highest proportion of accurate knowledge 95.5%

(n=85). To the question "A person who smoked for more than 20 years, there is little or no benefit to quitting", the responses showed that 50.6% (n=45), 58.7% (n=71), and 62.4% (n=88) of the non-smokers, former smokers, and current smokers responded "yes", respectively. Regarding the question "is smoking harming your health?" 25.8% of the nonsmokers, 75.2% of the former smokers, and 75.9% of the current smokers answered "strongly agree or agree", respectively. When the subjects were asked "Does smoking tobacco cause serious illness?" the majority of the non-smokers 97.8% (n=87) believed that smoking could cause serious illness. Only 61.7 (n=87) of the current smokers believed that smoking could cause stroke. Approximately, 89.9% (n=80), 85.1% (n=103), and 81.6% (n=115) of the non-smokers, former smokers and current smokers, respectively, believed that tobacco smoking could cause a heart attack. High proportions of the subjects believed that smoking could cause lung cancer and non-smokers had the highest proportion 92.1% (n=82) (Table 10).

Table (10)

Knowledge and believe of the subjects (n=351)

Knowledge / Beliefs	Non-Smokers		Former Smokers		Current Smokers	
	%	n	%	n	%	n
Do you think that you will avoid or decrease serious health problems if you quit smoking? Yes*	95.5	85	92.6.	112	80.9	114
A person who has smoked for more than 20 years, do you think that there is very little or no benefit to quitting? Yes*	50.6	45	58.7	71	62.4	88
Is smoking harming your health? Yes*	25.8	23	75.2	91	75.9	107
Does smoking tobacco cause serious illness? Yes	97.8	87	89.3	108	87.9	124
Does smoking tobacco cause stroke? Yes	68.5	61	68.6	83	61.7	87
Does smoking tobacco cause heart attack? Yes	89.9	80	85.1	103	81.6	115
Does smoking tobacco cause lung cancer? Yes	92.1	82	87.6	106	85.8	121

*All percentages add up to 100%; therefore only % for yes are reported here

Social Support

The Enriched Social Support Inventory (ESSI) was used to assess the social support of subjects. The ESSI items were summed to create a total score (range: 8.0–34.0); higher scores indicated more social support; and the scores were categorized into [(8.0–23 = low support; 24.0–34.0 = high support)]. The scores were as follow: 24.20 (±3.88) for non-smokers, 22.43 (±3.94) former smokers, and 22.64 (±4.64) for current smokers. Of the total subjects (351), women were reported higher mean ESSI scores than men 23.40 (±5.14) vs. 22.87 (±4.07) (Table 11).

Table (11)

Means (±SD) of ESSI score for Subjects by Smoking Status and by Gender (n=351)

ESSI Score						
Smoking status	Men (n=289)		Women (n=62)		Total (n=351)	
	n*	Mean (±SD)	n*	Mean (±SD)	n*	Mean (±SD)
Non-smokers	73	24.12 (±3.87)	16	24.56 (±4.07)	89	24.20 (±3.88)
Former smokers	101	22.38 (±3.83)	20	22.70 (±4.55)	121	22.43 (±3.94)
Current smokers	115	22.50 (±4.25)	26	23.23 (±6.11)	141	22.64 (±4.64)
Total	289	22.87 (±4.07)	62	23.40 (±5.14)	351	22.96 (±4.27)

When the scores of ESSI dichotomized based on the median as a cut point (8.0–23 = low support; 24.0–34.0 = high support. The results indicated that 44.2% (n=155) of the subjects had high social support and 55.8% (n=196) had low social support. Current smokers reported lower social support (62.6% men vs. 53.8% women) as compared with those who never smoke (63% men vs. 68.8% women) and former smokers (66.3% vs. 55.0% women) (Table (12).

Table (12)

Scores of ESSI Based on a Median Split Analysis (n=351)

Total ESSI Score (351)	n		%	
High social support	155		44.2	
Low social support	196		55.8	
Total	351		100.0	
ESSI Score for Subjects by Smoking Status and by Gender				
Smoking status	Men		Women	
	n*	%	n*	%
Non-smokers (n=89) High social support	46	63.0	11	68.8
Low social support	27	37.0	5	31.2
Former smokers (n=121) High social support	34	33.7	9	45.0
Low social support	67	66.3	11	55.0
Current smokers (n=141) High social support	43	37.4	12	46.2
Low social support	72	62.6	14	53.8

Symptoms of Depression

The Patient Health Questionnaire (PHQ-9) was used to assess symptoms of depression in subjects by smoking status and by gender. The PHQ-9 items were summed to create a total score (range: 0.0–27.0); and the scores were categorized into [(0.0–9.0 = minimal symptoms of short duration; 10.0-19.0 = mild to moderate depression; 20.0-27 = major depression)]. The higher score means that the symptoms of depression are more severe. The results in Table (13) showed the mean and (±SD) of the PHQ-9 score in the three groups were 3.60 (±2.61) in non-smokers, 5.11(±3.24) in former smokers, and 6.14 (±4.37) for current smokers. Women reported higher mean PHQ-9 scores than men 7.04 (±5.36) vs. 4.73(± 3.15). Women smokers had higher mean PHQ-9 scores than men who smoked 8.89 (±6.26) vs. 5.53(± 3.59).

Table (13)

Means (±SD) of PHQ-9 Scores for Subjects by Smoking Status and by Gender (n=351)

PHQ-9 Score						
	Men		Women		Total	
	n*	Mean (±SD)	n*	Mean (±SD)	n*	Mean (±SD)
Non-smokers	73	3.27 (±2.39)	16	5.12 (±3.09)	89	3.60 (±2.61)
Former smokers	101	4.89 (±2.74)	20	6.25 (±5.01)	121	5.11 (±3.24)
Current smokers	115	5.53 (±3.59)	26	8.89 (±6.26)	141	6.14 (±4.37)
Total	289	4.73 (±3.15)	62	7.04 (±5.36)	351	5.14 (±3.74)

Depression Screening Scores

The severity of depression was interpreted as follow: minimal symptoms of short duration (PHQ score; 0-9), mild to moderate depression (PHQ score; 10- 19), or major depression (PHQ score; 20-27) (Kroenke, Spitzer, and Williams, 2001). In response to PHQ-9, all men in the non-smoker and former smokers reported minimal symptoms of depression. While 87.5% of women in non-smoke and 85% of former smokers reported minimal symptoms of depression. Compared with men, current smokers of women reported more ‘mild to moderate’ symptoms of depression than those of men (15.4% vs. 13%). On the other hand 11.5% of current smokers of women reported major depression while none of the current smoker men reported such finding (Table 14).

Table (14)

Depression Severity by Gender and Smoking Status (n=351)

Depression severity by gender and smoking status				
	Men		Women	
Smoking status	n*	%	n*	%
Non-smokers (n=89) Minimal symptoms (0-9)	72	98.6	14	87.5
Mild to moderate (10-19)	1	1.4	2	12.5
Major depression (20-27)	-	-	-	-
Former smokers (n=121) Minimal symptoms (0-9)	96	95.5	17	85.0
Mild to moderate (10-19)	5	5.0	3	15.0
Major depression (20-27)	-	-	-	-
Current smokers (n=141) Minimal symptoms (0-9)	100	87.0	19	73.1
Mild to moderate (10-19)	15	13.0	4	15.4
Major depression (20-27)	-	-	3	11.5

Potential Predictors of Confidence in Willingness to Quit Smoking: Smokers Only

Logistic regression analysis was performed using seven variables: those who answered the three knowledge questions [Do you think that you will avoid or decrease serious health problems if you quit smoking? Person who smoked for more than 20 years do you think that there is very little or no benefit to quitting? Is smoking harming your health?], educational level, number of people who smoke in the household, symptoms of depression, and social support and. The independent contribution of the seven variables shows that only one variable "Do you think that you will avoid or decrease serious health problems if you quit smoking?" was statistically significantly independently associated with willingness to quit smoking. Odds Ratio (OR) = 3.02, 95% confidence interval (CI) 1.06, 8.62 (Table 15).

Table (15)

Logistic Regression Analysis with Seven Independent Variables that Predict Confidence in Willingness to Quit Smoking (n=141)

Variables	OR	95% CI	*p* value
Do you think that you will avoid or decrease serious health problems if you quit smoking?	3.02	1.06, 8.62	0.04
Person who smoked for more than 20 years do you think that there is very little or no benefit to quitting?	1.40	0.60, 3.23	0.44
Is smoking harming your health?	1.23	0.43, 3.51	0.70
Educational level	1.26	0.55, 2.86	0.59
Number of people who smoke in the household	1.80	0.61, 5.31	0.28
Symptoms of depression	1.63	0.58, 4.53	0.35
Social support	0.56	0.18, 1.70	0.31

* OR: Odds Ratio 95%, CI: Confidence Interval, $\alpha = 0.05$

The findings presented in this chapter will be discussed within the context of the research questions in chapter five.

Chapter Five

Discussion

This study is the third study conducted in Jordan that describes smoking pattern, assesses smoking-related to knowledge, attitudes, and beliefs about smoking, as well as the willingness and confidence to quit smoking in Jordanian patients who were hospitalized with CVDs thus build on existing scientific knowledge. Also, it is a unique study conducted in military hospitals in Jordan that included both men and women. Finding from this study provide information about frequency of smoking, identify perception about the benefits of smoking cessation, identify willingness of CVDs patients to quit smoking as well as their previous attempts to quit, detect the main reasons that discourage CVDs patients from quitting smoking, and identify the available resources that might encourage those patients to quit.

In this study, 360 patients with CVDs admitted to a Jordanian military hospital were invited to take part in the study and 351 agreed (97.5 %). The majority were men, married, a largest proportion of the sample were current smokers, a slightly smaller proportion were former smokers, and only a quarter had non-smoked. Their sociodemographic information showed that the subjects' age ranged from 18 to 78 years with an average age of about 54 years, almost all lived with someone else in the household, and less than half were employed.

The results of this study were similar to those reported by previous researchers who described the patterns of smoking and perception of patients related to smoking particularly among CVDs patients in Jordan (Elshatarat, 2010). Similar results were reported by those who detected the reasons that discourage quitting smoking (Abu-Baker et al., 2010), and those results reported by previous investigators about knowledge, attitudes, and smoking practice among South Korean men (Sohn et al., 2007), and those results reported the pattern

of smoking among American women who were smokers and hospitalized with CVDs (Froelicher et al., 2002).

The findings in this study indicated that the prevalence of smoking among men who were smokers with CVDs was similar to that in women. The relatively high percentage of women who were smokers with CADs in this study is much higher than those reported by previous investigators and is inconsistent with Arabic culture where smoking by women is considered socially unacceptable (Abu-Baker et al., 2010). High prevalence of smoking among Jordanian men and women with CVDs indicates that there is low awareness and lack of knowledge about the hazards of smoking among patients with CVDs. These findings indicate that Jordanian patients with CVDs are highly in need for smoking cessation programs that increase their awareness about the health consequences of smoking and enable them to quit smoking to improve their health and decrease the possibility of CVDs prognosis.

In this study, the majority of the subjects were married; almost all were living with someone else; the majority were highly educated; less than half were employed; and the mean of age was about 53 years similar to the mean of age in the previous studies (Abu-Baker et al., 2010; Elshatarat, 2010; Sohn et al., 2007; Froelicher et al., 2002). The most common admission diagnoses was angina, followed by myocardial infarction; and the most frequent procedures performed were stent insertions and cardiac catheterization that lead to CABG, which are similar to the common diagnoses reported in the previous studies by Abu-Baker et al. (2010) and to those reported by Elshatarat (2010).

In addition to the high frequency of smoking in this cardiac population, all other modifiable CVDs risk factors were also highly prevalent with excess weight, hypertension, hyperlipedmia that was ranked as the highest along with the non-modifiable risk factors of age and family history. These results were consistent with the results indicated by the Jordanian MOH (2007) where the vast majority of those with CVDs were reported to have

one or more risk factors in which of Jordanian people have hypercholesterolemia, are overweight, are physical inactive and lead a sedentary life, are hypertensive, and have DM (Shishani, 2010). Furthermore, the results of this study were also similar to the results reported by previous research that investigated the prevalence of risk factors associated with CVDs among CHDs patients in Jordan (Hammoudeh et al., 2006). Hammoudeh et al. (2006) who reported that the great majority of Jordanian men and women diagnosed with CHDs and had at least one risk factor. Hammoudeh et al. (2006) found that both of men and women had DM, hypertension, high-density lipoprotein cholesterol, and had hypercholesterolemia.

The results of this study are also consisted with results reported by Elshatarat (2010) who found that more than half of Jordanian patients with CVDs reported that they had a positive family history for CVDs, and more than half of them had hypertension, hyperlipidemia, and were reported to be overweight. Similar results were reported by Sohn et al. (2007) who described the knowledge, attitudes, and smoking practice among South Korean men. Sohn et al. (2007) indicated that Korean men also had a high proportion of all CVDs risk factors. More than half of Korean men reported physical inactivity (58.9%), less than half of them had hypertension and also, less than half of Korean men were categorized as overweight, and less than quarter of them had DM.

The results from this study and the above studies focus our attention on the rising incidence of risk factors associated with CVDs on the national and international scene. This study in Jordanian patients provided some insight for the primary prevention of CVDs at a national level.

The age of initiation of smoking ranged from 6 years to 42 years, with men staring to smoke at younger ages than women. Most of the subjects were very heavy smokers (smoked two packs daily) and the choice of tobacco consumption was mostly cigarettes only; less than quarter smoking both cigarettes and argileh; whereas only very few reported smoking argileh

only. These results are approximately similar to the results reported by Elshatarat (2010) who indicated that the majority of the subjects smoked cigarettes smoking, while less than quarter used waterpipe, and only few used both cigarette and water pipe. Results reported by previous studies who described smoking methods in Jordan (Dar-Odeh et al., 2010; Khader and Alsadi, 2008) also found cigarette smoking to be the most common method of smoking among especially among males and waterpipe being the preferred method among females. Dar-Odeh et al. (2010) found that less than half of male students preferred cigarettes and waterpipe, and more than half of female students preferred waterpipe only. Whereas Khader and Alsadi (2008) reported that the majority of smoker students were cigarette smokers, while less than quarter were waterpipe smokers. Furthermore, the common forms of tobacco used were also used in other Arab countries such as Syria (Almerie et al., 2008), and United Arab Emirates (Mandil et al., 2007). Whereas in the USA the most common forms of tobacco used were cigarette smoking, Black Milld, cigars, kreteks/bidis, smokeless tobacco, and pipe as reported by (James, Chen, and Sheu, 2007).

The report of "heavy smoking" is consistent with the reporting of nicotine dependence as measured by the Fagerstrom instrument were about 40% acknowledged smoking their first cigarette when they "first opened their eyes." This measure is indicative of a high level of nicotine dependence (Fagerstrom, Heatherton, and Kozlowski, 1990; Pérez-Ríos et al., 2009). The acknowledgement that a majority of patients smoked regularly since they had been admitted to the hospital shows that while legally "No smoking" policies are in place in public buildings including hospitals in Jordan, there is a lack of enforcement of these policies. This finding is also indirect evidence that neither doctors nor nurses enforce the "no smoking" policies. Moreover, 83% of doctors and nurses discussed with patients that "they should stop smoking", only about 28% offered any assistance or counseling on how to stay off cigarettes. These findings are consistent with the studies by Shishani et al. (2008) that smoking rates by

physicians and nurses are very high, and that both physicians and nurses have little if any formal training regarding to effective smoking cessation interventions. Thus, the findings from the study suggested that patients do not receive appropriate counseling regarding smoking cessation during their hospital stay, although evidence from studies conducted in the US indicates that initiation of cessation of smoking while hospitalized is a highly effective intervention when it comes to quitting smoking (Froelicher et al., 2004).

In response to the three knowledge questions, a high proportion of the subjects knew that the smokers would avoid or decrease serious health problems by quitting smoking. The non-smoker subjects had the highest proportion of accurate knowledge with the former smokers having the second highest and current smokers the lowest accurate knowledge. In response to the second question, a few subjects in all three smoking status categories had the accurate knowledge about the fact that quitting smoking after being smokers for 20 years would still have health benefits. About half of the former and non-smokers correctly replied ‘no’, but only about half of the subjects in the never group who never smoked, about 41% in the former smoker group, and about 38% of the current smokers answered the question correctly. These responses suggest that they have inadequate knowledge or they believed that it “is too late to benefit from quitting”.

Regarding the third knowledge question, unfortunately, one third of the former and current smokers had knowledge deficits regarding to the health hazards of smoking. These findings suggest that there is an urgent need for public health education in general; and for patients who seek health care services in particular to receive information about health consequences of smoking.

For the purpose of planning smoking cessation interventions, current smokers and former smokers were asked about their previous quit attempts and their willingness to quit once they were discharged from the hospital. Almost all the current smokers reported having

made a quit attempt in the past year. When they were asked what methods they used in their last quit attempt, the majority of current smokers answered “quitting on their own way”, and few of them reported switching to argileh as a method of quitting cigarettes. Only a very small proportion used an evidence based-intervention that is Nicotine Replacement Therapy. This finding is similar to the previous findings reported by Elshatarat (2010) who stated that the majority of the patients with CVDs in Jordan used their “own way to quit smoking”, while one third of them used counseling and smoking cessation programs. While about less than half of CVDs patients in USA stated that they used their own methods to quit smoking, and less than quarter of them used nicotine replacement therapy (Froelicher et al., 2002), and more than half of the South Korean patients used their own way to quit smoking (Sohn et al., 2007).

A high proportions of subjects hospitalized with CVDs reported that they would be willing to make a serious quit attempt once they are discharged to their homes. This high interest in smoking cessation is consistent with reports from other studies from Korea (Sohn et al., 2007), and from a recent study from Jordan (Elshatarat, 2010), as well as from studies that show that smokers are very eager to consider quitting, but often do not know how, and are misinformed about the efficacy of different methods of smoking cessation (Froelicher et al., 2002). This is evidenced by their answer that “they would try to quit on their own” even thought they were unsuccessful during their previous quit attempt in using this method (Elshatarat, 2010; Sohn et al., 2007; Froelicher et al., 2002). It is evident that despite the reported failure due to relapse when using “their own way”; when asked about methods they would use in future quit attempts; they gave same answer “use their own way” to quit smoking (They just quit without any formal plan). These findings indicates that there is an urgent need for education, training, and counseling for doctors and nurses in order to improve

their knowledge and skills to enable them incorporate smoking cessation interventions in clinical practice and assist patients in their quitting attempts.

Some studies linked depression to smoking (Kalman, Morissette, and George, 2005; Son et al., 1997). Many remaining smokers have had repeated smoking cessation failures, possibly due to the presence of co-morbid psychiatric disorders (Kalman, Morissette, and George, 2005). The results of the symptoms of depression scores (13) indicated that the scores were relatively low (non-depressed) but were the lowest in those who never smoked, the highest in current smokers, and intermediate in former smokers supporting the contentions of a relationship between smoking and depression. For the same categories of smoking status women consistently had somewhat higher, although not indicative of the presence of depression scores than men.

The measures of social support using the ESSI suggest that non-smokers subjects in this study had higher mean score of social support compared to those in former smokers and current smokers. Smoker women reported higher mean score of social support compared with men who were smokers. While strong social support has been demonstrated to be beneficial to higher adherence to healthy CVDs lifestyle behaviors in studies in the U.S. when social support is evaluated within the context of smoking and relapse, caution must be exercised in the study of the beneficial effects of strong social support and smoking; since persons who are identified in the social network as smokers who are living with a smoker are likely to result in higher relapse than not living with a smoker (Froelicher et al., 2004).

Different results were revealed from a cross-sectional study conducted in Korea to identify the role of social support related to smoking behavior among people who live in rural areas (Yun et al., 2010). It was found that social support was found to be higher in men than women, smokers had higher levels of social support than those who had never smoked and people with high levels of social support were more likely to smoke. This inconsistency with

this study finding explained by the fact that each country has their own culture that affects their attitudes and beliefs regarding to the health consequences of smoking. It is important to understand the socio-cultural factors associated with smoking initiation and cessation among specific populations, with the intention of developing culturtural-based smoking cessation intervention.

In this study, a logistic regression analysis was conducted that included seven variables in the model to assess the relationship between knowledge, attitudes, and beliefs about smoking, educational level, household members who smoke, depression, inadequate social support, and willingness to quit smoking. Only the first knowledge question "Do you think that you will avoid or decrease serious health problems if you quit smoking?" was a statistically significant independently predictive of willingness to quit [OR=3.02; 95%CI, 1.06, 8.62]. Other studies conducted in Jordan showed that subjects with high income, with longer hospitals admissions in acute cardiac wards, and a diagnosis of acute CVDs were statistically significantly more willing to quit smoking (Elshatarat, 2010). While studies conducted in Korea showed that being married, being alcohol dependent and starting smoking before age 20 were statistically significantly of low confidence in quitting smoking (Sohn et al., 2007).

Limitations

This study used a convenience sample which possibly resulted in selection bias. Data were collected from one organization which limits the generalizabiliy of the study's findings. Nevertheless, this study has the several strengths. It is the third study that assesses the frequency of smoking and smoking-related knowledge in Jordanian patient who were hospitalized with CVDs thus building on a body of knowledge. It the first study that evaluated patterns of smoking among both Jordanian men and women with CVDs, whereas

the previous study did not include women subjects. This study is the first study that was conducted in military hospitals and specifically at QAHI which actually is the largest tertiary referral center for cardiac patients. The findings of this study can provide a basis for comparisons with findings from other health care sectors. This study also provides information about the knowledge, attitudes, and beliefs of subjects with CVDs diagnosis in Jordan. Furthermore, the study used a research design that is suitable and feasible to achieve the study purposes and to answer the study questions.

Suggestions for Future Research

This study used a convenience sample to recruit both Jordanian men and women hospitalized with CVDs. Using random selection methods and recruiting subjects from different health care sectors (public, private, and military) is highly recommended to enhance the generalizabiliy of future study findings to all Jordanian men and women. Further studies examining the effects of the implemented public health policies on decreasing smoking rates among Jordanian populations are also needed. Testing the impact of smoking cessation interventions and examining the impacts of risk factors other than smoking to decrease the prevalence of CVDs among Jordanian population are also recommended. Studying nurses and physicians' abilities in delivering smoking cessation interventions in addition to studying all dimensions of smoking that include factors that encourage or discourage smokers to quit, would be specifically useful to advance nursing and medical knowledge in this area.

Limitations in funding and other barriers to accelerate research in tobacco-control enhances the need for collaboration and networking among all Jordanian health institutions such as Jordanian Nursing Council (JNC), Jordanian Nursing and Midwifery Council (JNMC), RMS, MOH, and private and public health sectors.

Implication for Nursing Education and Practice

In 2008, the WHO launched policy recommendation that encouraged countries worldwide to implement the Framework Convention on Tobacco Control (FCTC) as guidance to countries on preventing exposure to tobacco smoking and providing smoking cessation strategies. Smoking cessation interventions are strongly recommended as a most cost-effective strategy for preventing mortality and morbidity due to tobacco smoking (Sarna et al., 2009; Shiffman et al., 2008). Furthermore, quitting smoking can decrease the risk of CVDs (Frothingham, Payne, and Meadows, 2008; AHA, 2006; US Department of Health and Human Services, 2004; Taira et al., 2000). The code of practice on Tobacco Control for Health Professional Organizations adopted by the WHO encourages and supports nurses to be involved in smoking cessation programs at their workplaces (WHO, 2006a).

This study indicated that there is a deficiency in the knowledge of smoking quitting strategies among patients with CVDs. Furthermore, patients reported that health care providers were not helpful in educating them on smoking cessation. Evidence indicates that smoking cessation interventions can be provided effectively by healthcare providers, particularly nurses (Sarna et al., 2009). Nurses can effectively participate in implementing evidence-based smoking cessation interventions that significantly reduce smoking rates among patients, and help them in their quit attempts. Furthermore, nurses can become involved in community efforts that provide an environment free of smoking, participate in implementation of hospital tobacco control policies to keep hospitals "smoking free", provide patients with all necessary information about the health hazards of smoking and benefits of smoking cessation interventions, and educating, advising, and helping patients in their quit attempts with evidence-based strategies.

The roles of the nurses and their training in nursing schools are crucial to the movement of reducing the prevalence of diseases caused by tobacco use. Providing both nursing

students and practicing nurses with necessary education and skills about smoking-related health hazards and quitting strategies is very important if smoking cessation interventions are to be incorporated into clinical practice. Smoking cessation content must be adequately integrated into curricula of all nursing schools and nursing colleges in Jordan. Additionally, there is a need to help practicing nurses in quitting smoking and to implement health educational programs to train all healthcare providers to enhance their abilities and skills to deliver smoking cessation interventions in their workplace.

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Appendix

Appendix (A)

Smoking patterns and factors associated with smoking cessation in patients with CVD in Jordan
Global Adult Tobacco Survey
(GATS)

Subject ID: Unit ID:
Status: 0= Never 1= Former 2= Current smoker Date of interview:

SECTION A. BACKGROUND CHARACTERISTICS

INTRO: First, I would like to ask you some questions about your background. (17 Questions)

A.1. What is your date of birth? _____/ /_________________(mm/dd/yy)
A.2. What is your gender?
1= Male
2= Female
A.3. What is your current height: ____cm
A.4. What is your current weight: ____kg
A.5. Marital status:
1= Single
2= Married
3= Widowed
4= Divorced
A.6. Living arrangement:
1= Living with someone
2= Living alone
A.7. Educational level:
1=No formal schooling
2=Primary school
3=High school
4=College/university post graduate degree
A.8. Which of the following best describes your main work status over the past 12 months?
1=Employed
2=Homemaker (for women)
3=Unemployed
4=Disability
5=Student.
6=Retired.

A.9. Medical Diagnosis, (circle all that apply):

A9a. Angina/Chest pain No=0 Yes=1

A9b. Myocardial Infarction.

0= None
1= Anterior
2= Inferior
3= Lateral
9= Don't know

A9c. Congestive Heart Failure. 0=No 1=yes

A9d. Other 0=No 1=yes
(specify)…………….

A10. Procedures (circle all that apply).

A10a. Cardiac Catheterization 0=No 1=Yes
Date…………….(mm/dd/yy)

A10b. Angioplasty 0=No 1=Yes
Date…………….(mm/dd/yy)

A10c. Stent Insertion 0=No 1=Yes
Date…………….(mm/dd/yy)

A10d. Laser Atherectomy 0=No 1=Yes
Date…………….(mm/dd/yy)

A10e. CABGS 0=No 1=Yes
Date…………….(mm/dd/yy)

A10f. Other 0=No 1=Yes
(specify)……………………..

A11. Cardiovascular Risk Factors (circle all that apply).

A11a. Hypertension 0=No 1=Yes
A11b. Lipid Abnormality 0=No 1=Yes
A11c. Diabetes Mellitus 0=No 1=Yes (type 1) 2=yes (type II)
A11d. Obesity 0=No 1=Yes
A11e. Sedentary Lifestyle 0=No 1=Yes
A11f. Family History 0=No 1=Yes
A11g.Total number: (…...)

Note for interviewer: *Premature Family History: A first degree relative (parents, siblings) that has history of CVD at ages younger than 55 years in men and younger than 65 years in women. According to the previous definition; please answer the following question:*

A12. Family history of premature CVD in parent only.

0= None
1= Father
2= Mother
3= Both

A13. Family history of premature CVD in siblings only.

0= None
1= Men
2= Women
3= Both

A14. Total number of 1st degree relatives with history of CVD. (-------)Persons.
A15. What do you consider yourself?

0= Never
1= Former
2= Current smoker

A16. In the last 30 days before you were admitted to the hospital did you smoke any cigarettes?

1= No, if no please skip to section C 2= Yes

A17. If Yes, What is your favorite type of smoking?

1= Cigarette only
2= Argileh only
3= Cigarettes and Argileh
4= Others

SECTION B. SMOKING (FOR SMOKERS ONLY)

INTRODUCTION: Now, I would like to ask you some questions about smoking pattern, including cigarettes and argileh. (12 Questions)

B1. Have you smoked cigarettes in your life time?

1= Occasionally (if yes please skip to section question no.10)
2= Daily

B2. How old were you when you first started smoking tobacco daily?

#............ Years old

B3. On average, how many cigarettes do you smoke each day (20 in one package)?

1 = Half pack
2 = One pack
3 = Two pack.
4 = Other, Specify…………………………………………

B4. How soon after you wake up do you usually have your first smoke? Would you say?

1= More than 2 hours
2= Between 1 and 2 hours
3= Between 30 and 60 minutes
4= Between 15 and 30 minutes
5= Within the first 15 minutes after waking up
6= When you first open your eyes

B5. Do you smoke on the days that you are so ill that you are in bed most of the day? (Circle one number)

1= Never
2= Rarely
3= Sometimes
4= Usually
5= Always

B6. Since you have been admitted, have you been smoked on regular basis?

1=No (If no skip to question #8) 2=Yes

B7. During your current hospitalization, did you smoke?

1= Outside the hospital
2= In the cafeteria
3= In the lounge
4= In your room

B8. During your current hospitalization, did your doctor or nurse discuss with you that you should not be smoking

1=Yes 2=No

B9. Did your doctor or nurse offer you any assistance on how to stay off the cigarettes while you are hospitalized?

1=Yes 2=No

B10. How many times did you visit a doctor or health care provider in the past 12 months?

0=None
1=1 or 2 times
2=3 to 5 times
3=6 or more times

B11. During any visit to a doctor or health care provider in the past 12 months, were you asked if you smoke?

1=Yes 2=No

B12. During any visit to a doctor or health care provider in the past 12 months, were you advised to quit smoking tobacco?

1=Yes 2=No

SECTION C. SECONDHAND SMOKE

INTRODUCTION: Now, I would like to ask you some questions about smoking in various places (12 Questions).

C1. How many people in your household besides yourself smoke?

of people………

C2. Smoking is allowed inside of your home, smoking is generally not allowed inside of your home but there are exceptions, or smoking is never allowed inside of your home?

1= Never allowed
2= Not allowed, but there are exceptions
3= Allowed

C3. Inside your home, is smoking allowed in every room?

1= No 2= Yes

C4. How often does anyone smoke inside your home? Would you say daily, weekly, monthly, or less than monthly?

1= Rarely
2= Monthly
3= Weekly
4= Daily.

C5. Do you currently work out of your home?

1=Yes 2=No/don't work (If no skip to question # 9)

C6. Is your work indoors or outdoors?

1= Outdoors
2= Indoors
3= Both

C7. Which of the following best describes the indoor smoking policy where you work?

1=Not allowed in any indoor areas
2=Allowed only in some indoor areas.
3=Allowed anywhere
9=Don't know

C8. During the past 30 days, did anyone smoke indoors where you work?
1=No 2=Yes

C9. During the past 30 days, did you visit any government buildings or government offices?
1= No 2= Yes 9= Don't know

C10. Did you see anyone smoking inside of any government buildings or government offices that you visited in the past 30 days?
1=No 2=Yes 9=Don't know

C11. During the past 30 days, did you visit any health care facilities?
1=No 2=Yes 9=Don't know

C12. Did you see anyone smoking inside of any health care facilities that you visited in the past 30 days?
1=No 2=Yes 9=Don't know

SECTION D. SMOKING CESSATION

INTRODUCTION**:** The next questions ask about any attempts to stop smoking that you might have made. Please think about smoking. (11 Questions)

D1. Are you willing to make a serious quit attempt after you are discharged from this hospital? (List all that apply)
1=Yes 2=No 9=Don't know

D2. Have you ever heard of smoking cessation programs?
1=Yes 2=No

D3. If you were offered a smoking cessation program what would be of interest to you? (Choose all that apply)

D3a= Counseling	0=No	1=Yes
D3b= Medications	0=No	1=Yes
D3c= A combination of counseling and medication	0=No	1=Yes
D3d= Quite on my own way	0=No	1=Yes
D3e= None	0=No	1=Yes
D3f= Others please/specify ………	0=No	1=Yes

D4. During the past 12 months, have you tried to stop smoking?
1=Yes 2= NO (if no skip to question # 11).

D5. Thinking about the last time you tried to quit, how long did you stop smoking?
1= Months
2= Weeks
3= Days
4= Less than one day (24 hours)

D6. What is the most important reason for the last quit attempt?
1= My health
2= Previous hospitalization experience
3= Religion
4= Other, please specify:…………………………………….

D7. The reason for relapse in the last quite attempt:
1= Withdrawal symptoms
2= Crisis (death, illness, loss of job, argument, family, ……..)
3= Social situation
4= Boredom
5= Friends
6 = Others / please specify: …………………………
D8. Do you feel any of the following withdrawal symptoms during the last quit attempt?
1= Craving
2= Anxiety
3= Mood changes
4 = other/please specify: …………………………….
D9. During the past 12 months, did you use any of the following to try to stop smoking tobacco? ***Read each item:***

D9a. Used your own way	0=No	1= Yes
D9b. Acupuncture	0=No	1=Yes
D9c. Smoking cessation programs	0=No	1=Yes
D9d. Counseling, including at a smoking cessation clinic	0=No	1=Yes
D9e. Nicotine replacement therapy (patch or gum)	0=No	1=Yes
D9f. Traditional medicines	0=No	1=Yes
D9g. Switching to argileh	0=No	1=Yes

D10. Who advised you to quit smoking (check all that apply)?

D10a. Physician	0=N0	1=Yes
D10b. Nurse	0=No	1=Yes
D10c. Pharmacist	0=No	1=Yes
D10d. Dentist	0=No	1=Yes
D10e.Other/please specify ……	0=No	1=Yes

D11. **Which of the following best describes your thinking about quitting smoking?**
1=I am planning to quit within the next month
2=I am thinking about quitting within the next 12 months
3=I will quit someday, but not within the next 12 months
4=I am not interested in quitting

SECTION E: KNOWLEDGE, ATTITUDES and BELIEFS

INTRODUCTION: I would like to ask you some questions related to your knowledge, attitudes and beliefs about smoking. (7 Questions)

E1. How likely do you think it is that you will avoid or decrease serious health problems if you quit smoking?

1=Very likely
2=Likely
3=Neither likely nor unlikely
4=Unlikely
5=Very unlikely

E2. If a person has smoked for more than 20 years, there is very little or no benefit to quitting.

1=Strongly agree
2=Agree
3=Neither agree nor disagree
4=Disagree
5=Strongly disagree

E3. My smoking is harming my health.

1=Strongly agree
2=Agree
3=Neither agree nor disagree
4=Disagree
5=Strongly disagree**.**

Based on what you know or believe. Please answer the following questions:

E4: Does smoking tobacco cause serious illness?

1=Yes 2=No 9=Don't know

E5. Does smoking tobacco cause Stroke (blood clots in the brain that may cause paralysis)?

1=Yes 2=No 9=Don't know

E6. Does smoking tobacco cause Heart attack?

1=Yes 2=No 9=Don't know

E7. Does smoking tobacco cause Lung cancer?

1=Yes 2=No 9=Don't know

[SECTION F. FORMER SMOKERS]

INTRODUCTION: The next 6 questions are about your former smoking pattern

F1. How old were you when you first started smoking daily? # ________ Years

F2. How long has it been since you stopped smoking?

1= Years
2= Months
3= Days

F3. How did you quit?

1= I just quit (suddenly) 2= Gradually

F4. Reasons for quitting (check all that apply)

F4a. Due to health problems	0=No	1=Yes
F4b. My family asked me to quit	0=No	1=Yes
F4c. No reason	0=No	1=Yes
F4d. Cost	0=No	1=Yes
F4e. Religion	0=No	1=Yes

F5. Who told you to quit smoking?

F5a. Doctor	0=No	1=Yes
F5b. Nurse	0=No	1=Yes
F5c. Dentist	0=No	1=Yes
F5d. Pharmacist	0=No	1=Yes
F5e. Friends	0=No	1=Yes
F5f. Family member	0=No	1=Yes
F5g. None	0=No	1=Yes

F6. How difficult was the quitting?

0 = Quitting was very easy
1 = I did not suffer that much
2 = I suffered a lot from symptoms like nervousness, inability to concentrate.

SECTION G. SOCIAL CONTEXT

INTRODUCTION: The next 7 questions are related to your social context. Please listen the following questions and circle the response that most closely describes your current situation.

G1. Is there someone available to you whom you can count on to listen to you when you need to talk?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G2. Is there someone available to give you good advice about a problem?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G3. Is there someone available to you who show you love and affection?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G4. Is there someone available to help you with daily chores?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G5. Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision)?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G6. Do you have as much contact as you would like with someone you feel close to, someone in whom you can trust and confide?

Non of the time	A little of the time	Some of the time	Most of the time	All of the time
1	2	3	4	5

G7. Are you currently married or living with a partner?

Yes	No
4	2

Source: J. A. Blumenthal, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center,Box 3119, Durham, NC 27710, USA, e-mail: Blume003@mc.duke.

SECTION H. DEPRESSION

INTRODUCTION: The next 9 questions are the Patient Health Questionnaire (PHQ-9) is a brief depression screening instrument. Please read the following questions and circle the response that most closely describes your current situation.

NAME: ______________________ **DATE:** ______________

Over the *last 2 weeks,* how often have you been bothered by any of the following problems? *(use "✓" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3
	add columns:	+	+	
	TOTAL:			

10. If you checked off *any* problems, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?	
Not difficult at all	____
Somewhat difficult	____
Very difficult	____
Extremely difficult	____

Source: **The PHQ-9 is adapted from PRIMEMDTODAY, developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues, with an educational grant from Pfizer Inc. For research information, contact Dr Spitzer at rls8@columbia.edu. The names PRIME-MD® and PRIMEMDTODAY™ are trademarks of Pfizer Inc.**

Appendix (B)

أنماط التدخين والعوامل المرتبطة بالإقلاع عنه بين المرضى المصابين بأمراض القلب والأوعية الدموية في الأردن
(أداة مسح التدخين العالمية للبالغين)

الرقم الشخصي للمريض : الرقم الشخصي للمقابل :______

التاريخ : ______ مدخن = 2 , مدخن سابق = 1 , غير مدخن = 0

الجزء (A): المعلومات الشخصية

مقدمة: بداية, سوف أطرح عليك بعض الأسئلة المتعلقة بالمعلومات الشخصية وتتضمن(17) سؤالا.

A1 **كم عمرك؟** ____ سنة

A2 **الجنس:**
1= ذكر
2= أنثى

A3 **ما هو طولك؟** ____ سم

A4 **ما هو وزنك؟** ____ كغم

A5 **الحالة الإجتماعية:**
1= أعزب
2= متزوج
3= أرمل
4= مطلق

A6 **طريقة السكن:**
1= أسكن مع آخرين
2= أسكن بمفردي

A7 **المستوى التعليمي:**
1= لم أدخل المدرسة
2= الابتدائي
3= الثانوي
4= دبلوم / بكالوريوس/ دراسات عليا

A8 **ما هي طبيعة عملك خلال الإثني عشر شهراً الماضية؟**
1= عامل
2= ربة منزل (للإناث)
3= غير عامل
4= غير قادر على العمل
5= طالب
6= متقاعد

A **التشخيص الطبي: (إختاركل ما ينطبق)**

A9a = ذبحة صدرية / ألم في الصدر: 0 = لا 1 = نعم

A9b = إحتشاء عضلة القلب 0 = لا 1= نعم الجزىء الأمامي من القلب.
2= نعم الجزىء السفلي من القلب
3= نعم. الجزىء الجانبي من القلب
9= لا أعرف

A9c = قصور القلب الإحتقاني: 0 = لا 1 = نعم

A9d = أمراض قلبية أخرى: 0 = لا 1 = نعم، مثل:.........

A10 **الإجراء الطبي العلاجي: (تحقق من كل ما ينطبق)**

A10a = قسطرة تاجية 0 = لا 1 = نعم تاريخ: __/__/____

A10b = توسيع الشرايين بالبالون 0 = لا 1 = نعم تاريخ: __/__/____

A10c = تركيب شبكة 0 = لا 1 = نعم تاريخ: __/__/____

A10d = استخدام الليزر 0 = لا 1 = نعم تاريخ: __/__/____

A10e = عملية قلب مفتوح 0 = لا 1 = نعم تاريخ: __/__/____

A10f = إجراء طبي علاجي آخر 0 = لا 1 = نعم مثل:......

A11 **الأمراض الأخرى التي ساهمت في حدوث الإصابة:**

A11a = ضغط الدم 0 = لا 1 = نعم

A11d = سمنة 0 = لا 1 = نعم

A11e = نمط الحياة خمولي(قليل الحركة) 0 = لا 1 = نعم

A11f = التاريخ العائلي 0 = لا 1 = نعم

A11g = المجموع ....

الجزء (B): للمدخنين فقط

أريد أن أطرح عليك عدد من الأسئلة تتعلق بطبيعة التدخين (متضمنة السجاير والأرجيله) وتتضمن(12) سؤالا

B1 **هل تدخن بشكل متقطع أو يومي ؟**

1= **متقطع, إذا الجواب نعم أرجو الإنتقال إلى سؤال رقم (10)**

2= يومي

B2 **كم كان عمرك عندما بدأت التدخين بشكل يومي؟( ) سنة**

B3 **كم باكيت تدخن في اليوم ؟ (علما بأن الباكيت يحتوي على عشرين سيجاره)**

1= نصف باكيت

2= باكيت

3= باكيتان

4= غير ذلك, حدد ____________

B4 **بعد إستيقاظك من النوم, متى تدخن أول سيجارة؟**

1= بعد ساعتين

2= بعد ساعة – ساعتين من صحياني

3= بعد 30 - 60 دقيقة من صحياني

4= بعد 15- 30 دقيقة من صحياني

5= بعد 15 دقيقة من صحياني

6= عندما أفتح عيوني

B5 **في اليوم الذي تكون فيه مريض هل تقوم بالتدخين أثناء وجودك بالسرير؟**

1= لا أدخن أبداً

2= نادراً

3= بعض الأحيان

4= عادةً

5= دائماً

B6 **منذ دخولك الحالي المستشفى، هل إستمريت بالتدخين بشكل منتظم؟**

1= لا, **إذا الجواب لا أرجو الإنتقال إلى سؤال رقم (8)**

2= نعم

B7 **خلال دخولك الحالي للمستشفى هل دخنت؟**

1= خارج المستشفى

2= في الكافتيريا

3= في الإستراحة

4= في الغرفة

B8 **أثناء وجودك الحالي بالمستشفى، هل قام أحد الأطباء أو الممرضين بالطلب منك بأن تمتنع عن التدخين؟**

1= نعم

2= لا

B9 **هل قام طبيبك أوالممرض/الممرضة المشرفة على حالتك بتقديم المساعدة لك عن كيفية بقاءك ممتنعا عن التدخين أثناء وجودك بالمستشفى؟**

1= نعم

2= لا

B10 **خلال السنة الماضية كم عدد المرات التي قمت بزيارة الطبيب أو أي مركز رعاية صحية؟**
0= أبداً
1= مرة أو مرتين
2= من ثلاث إلى خمسة مرات
3= ست مرات أو أكثر

B11 **خلال زيارتك إلى الطبيب أو أي مركز للرعاية الصحية هل سألك أحد كونك مدخن أم لا؟**
1 = نعم
2 = لا

B12 خلال زيارتك إلى الطبيب أو مراكز الرعاية الصحية هل قام أحد بتقديم النصح لك بضرورة الإقلاع عن التدخين؟
1= نعم
2= لا

الجزء (C): **التدخين السلبي**
أريد أن أطرح عليك بعض الأسئلة تتعلق بالممارسات الخاصة بالتدخين داخل منزلك وفي مكان عملك وتتضمن(12) سؤالا.

C1 **كم عدد الأشخاص الذين يدخنون داخل منزلك بالإضافة لك؟ (......) شخصا.**
0= 0
1= 1-3
2= 4-6
3= 7 أو اكتر

C2 **هل التدخين مسموح داخل بيتك؟**
1= غير مسموح
2= غير مسموح مع وجود بعض الإستثناءات
3= مسموح

C3 **هل التدخين مسموح في كل غرفة في بيتك ؟**
1= لا
2= نعم

C4 **هل يتم التدخين في داخل منزلك؟**
1= نادراً
2= شهرياً
3= أسبوعيا
4= يومياً

C5 **حالياً هل تقوم بالعمل خارج المنزل؟**
1= نعم
2= لا, **إذا الجواب لا أرجو الإنتقال إلى سؤال رقم (9)**

C6 **هل طبيعة عملك في مكان:**
1= مفتوح
2= مغلق
3= الاثنين معاً

C7 **ما هي السياسة المتبعة بالنسبة للتدخين في مكان عملك؟**
1= غير مسموح في أي منطقة مغلقة
2= مسموح فقط في المناطق المفتوحة
3= مسموح في كل مكان
4= لا أعرف

C8 **خلال الشهر الماضي، هل دخن أحد في مكان عملك؟**
1= لا
2= نعم

C9 **خلال الشهر الماضي، هل زرت أي مبنى أو مكتب حكومي؟**
1= لا
2= نعم
3= لا اعرف

C10 **هل شاهدت أي شخص يدخن في المباني أو المكاتب الحكومية التي زرتها خلال الشهرالماضي؟**
1= لا
2= نعم
9= لا أعرف

C11 **خلال الشهر الماضي، هل زرت أية مرافق للرعاية الصحية؟**
1= لا
2= نعم
9= لا أعرف

C12 **هل شاهدت أي شخص يدخن في مرافق الرعاية الصحية التي زرتها في الشهر الماضي؟**
1= لا
2= نعم
9= لا أعرف

الجزء (D): الأسئلة التالية عن محاولاتك التي قمت بها للتوقف عن التدخين وتتضمن(11) سؤالا

D1 **هل أنت على إستعداد لبذل محاولة جادة للتوقف عن التدخين بعد خروجك من المستشفى؟**
1= نعم
2= لا
9= لا أعرف

D2 **هل سبق لك أن سمعت عن برامج التوقف عن التدخين؟**
1= نعم
2= لا

D3 **إذا عرض عليك برنامج للتوقف عن التدخين ما هو البرنامج الذي تفضله؟ (إختار كل ما ينطبق)**

D3a	= إستشارة	0 = لا	1 = نعم
D3b	= أدوية	0 = لا	1 = نعم
D3c	= مجموعة من الأدوية والنصائح	0 = لا	1 = نعم
D3d	= سأقلع بطريقتي الخاصة	0 = لا	1 = نعم
D3e	= لاشي	0 = لا	1 = نعم
D3f	= غير ذلك	0 = لا	1 = نعم أذكرها ______

D4 **خلال ال 12 شهر الماضية هل حاولت التوقف عن التدخين؟**
1= نعم
2= لا

D5 **تذكر الوقت الذي حاولت فيه التوقف عن التدخين, ما هي الفترة التي توقفت فيها عن التدخين؟**
1= أشهر
2= أسابيع
3= أيام
4= أقل من يوم

D6 **ما هو السبب لآخر محاولة حقيقية للإقلاع عن التدخين ؟**
1= صحتي
2= التجربة السابقة بالمستشفى

3= الدّين
4= غير ذلك/ أذكرها ________

D7 **ما هو السبب في الرجوع عن آخر محاولة للإقلاع عن التدخين؟**
1= أعراض التوقف عن التدخين
2= أزمات (الموت، المرض، فقدان الوظيفة، العائلة، ...)
3= ظروف إجتماعية
4= الشعور بالملل
5= الأصدقاء
6= أخرى/ أذكرها ________

D8 **ما هي الأعراض التي تعرضت لها أثناء آخر محاولة للإقلاع عن التدخين؟**
1= رغبة شديدة في التدخين
2= قلق
3= تغيرات مزاجية
4= أخرى/ أذكرها _____

D9 **خلال السنة الماضية، هل إستعملت أي من التالي أثناء محاولتك الإقلاع عن التدخين؟**

D9a	= إتبعت طريقتك الخاصة	0 = لا	1 = نعم
D9b	= الوخز بالإبر	0 = لا	1 = نعم
D9c	= برامج التوقف عن التدخين	0 = لا	1 = نعم
D9d	= المشورة ، بما في ذلك في عيادة الإقلاع عن التدخين	0 = لا	1 = نعم
D9e	= العلاج ببدائل النيكوتين ، مثل اللصوق أو العلكة	0 = لا	1 = نعم
D9f	= الأدوية التقليدية	0 = لا	1 = نعم
D9g	= التحول إلى الأرجيله	0 = لا	1 = نعم

D10 **من الأشخاص الذين نصحوك بالإقلاع عن التدخين؟ (إختار كل ما ينطبق)**

D10a	= الطبيب	0 = لا	1 = نعم	
D10b	= الممرض/ الممرضة	0 = لا	1 = نعم	
D10c	= الصيدلي	0 = لا	1 = نعم	
D10d	= طبيب الأسنان	0 = لا	1 = نعم	
D10e	= آخرون	0 = لا	1 = نعم	أذكرهم.....................

D11 **أي من الأشياء التالية يمثل أفضل وصف لتفكيرك في الإقلاع عن التدخين؟**
1= أنا أخطط لترك التدخين خلال الشهر القادم
2= أنا أفكر بالإقلاع عن التدخين خلال السنة القادمة
3= سوف أقلع عن التدخين؛ لكن ليس خلال السنة القادمة
4= أنا غير مهتم في الإقلاع عن التدخين

الجزء (E): أريد أن أطرح عليك بعض الأسئلة المتعلقة بالمعرفة، الإتجاهات، والمعتقدات وتتضمن (7) أسئلة

E1 **هل تعتقد بأنك سوف تتجنب العديد من المشاكل الصحية في حال أقلعت عن التدخين؟**
1= من المحتمل جداً
2= محتمل
3= محتمل / غير محتمل
4= غير محتمل
5= من المستبعد جداً

E2 **الشخص الذي دخن لأكثر من عشرين سنة; هل تعتقد بأنه لا توجد أي فائدة من الإقلاع عن التدخين؟**
1= أوافق بشدة
2= أوافق
3= أوافق/ لا أوافق
4= لا أوافق

5= لا أوافق بشدة

E3 **التدخين أثر على صحتي ؟**

1= أوافق بشدة

2= أوافق

3= أوافق/ لا أوافق

4= لا أوافق

5= لا أوافق بشدة

بناء على ما تعرف أو تعتقد، أرجو الإجابة عن الأسئلة التالية؟

E4 **هل التدخين يسبب أمراض خطيرة؟**

1= نعم

2=لا

9= لا أعرف

E5 **هل التدخين يسبب السكتة الدماغية؟** (الجلطات الدموية في الدماغ التي قد تسبب الشلل)

1= نعم

2= لا

9= لا اعرف

E6 **هل التدخين يسبب نوبة قلبية؟**

1= نعم

2= لا

9= لا أعرف

E7 **هل التدخين يسبب سرطان الرئة؟**

1= نعم

2= لا

9= لا أعرف

الجزء(F) : الأسئلة التالية تتعلق بالمدخنين السابقين وعددها (6) أسئلة.

F1 **كم كان عمرك عندما بدأت التدخين بشكل يومي ؟ (ـــ) سنة**

F2 **ما هي الفترة التي توقفت فيها عن التدخين؟**

1= سنوات

2= أشهر

3= أيام

F3 **كيف توقفت عن التدخين؟**

1= فجأة

2= تدريجياً

F4 **ما هو سبب التوقف؟ (تحقق من كل ما ينطبق)**

F4a	= بسبب المشاكل الصحية	0 = لا	1 = نعم
F4b	= عائلتي طلبت مني التوقف	0 = لا	1 = نعم
F4c	= لا يوجد سبب	0 = لا	1 = نعم
F4d	= التكلفة	0 = لا	1 = نعم
F4e	= الدّين	0 = لا	1 = نعم

F5 **من طلب منك بأن تتوقف عن التدخين؟(تحقق من كل ما ينطبق)**

F5a	= الطبيب	0 = لا	1 = نعم
F5b	= الممرض/ الممرضه	0 = لا	1 = نعم
F5c	= طبيب الأسنان	0 = لا	1 = نعم

F5d	= الصيدلي	0 = لا	1 = نعم
F5e	= الأصدقاء	0 = لا	1 = نعم
F5f	= أفراد عائلتك	0 = لا	1 = نعم
F5g	= لا أحد	0 = لا	1 = نعم

F6 **ما مدى الصعوبة في الإقلاع عن التدخين؟**
0 = التوقف سهل جداً
1 = أنا لم أعاني كثيراً
2 = لقد عانيت الكثير من أعراض مثل العصبية ، وعدم القدرة على التركيز

الجزء (G): المحيط الإجتماعي
مقدمة: ألأسئلة السبعة التالية تتعلق بمحيطك الإجتماعي. أرجو الإستماع للأسئلة واختيار الإجابة التي تمثل وضعك الحالي.

G1 **هل هناك أحد يمكنك الإعتماد عليه للإستماع إليك عند حاجتك للكلام؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G2 **هل هناك أحد يساعدك بإعطائك نصيحة جيدة في حل مشكلة معينة ؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G3 **هل هناك أحد يظهر لك المحبة والعاطفة؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G4 **هل هناك احد يساعدك في الأعمال المنزلية اليومية؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G5 **هل يمكنك الإعتماد على اي احد في الحصول على الدعم العاطفي (للحديث عن مشاكلك أو مساعدتك في اتخاذ القرارات)؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G6 **هل لديك العدد الكافي من الأشخاص الذين يمكنك الإتصال بهم وتشعر بأنهم مقربين لديك؟**
1 = لا
2 = قليل من الوقت
3 = بعض الوقت
4 = اغلب الوقت
5 = كل الوقت

G7 **هل أنت متزوج حاليا أو تعيش مع آخرين؟**
2= نعم
4= لا

الجزء (H): وصف حالة الإكتئاب
مقدمة: ألأسئلة التالية تتعلق بحالة الإكتئاب. أرجو الاستماع للأسئلة واختيار الإجابة التي تمثل وضعك الحالي وتتضمن (10) أسئلة.

خلال الأسبوعين الماضيين ما عدد المرات التي أزعجتك المشاكل التالية:	أبدا	عدة أيام	أكثر من نصف الأيام	تقريباً كل الأيام
H1. قليلاً من المتعة في عمل الأشياء	0	1	2	3
H2. الشعور بالإحباط، الإكتئاب، فقدان الأمل	0	1	2	3
H3. عدم القدرة على النوم، نوم لفترات طويلة	0	1	2	3
H4. الشعور بالتعب أو ضعف الطاقة لديك	0	1	2	3
H5. ضعف الشهية أو الأكل بشراهة	0	1	2	3
H6. الشعور بالسوء أو الشعور بالفشل، أو الشعور بخيبة الأمل لنفسك أو لعائلتك	0	1	2	3
H7. فقدان التركيز في الأشياء مثل قراءة الجريدة أو مشاهدة التلفاز	0	1	2	3
H8. التحرك أو التحدث ببطء شديد لدرجة ملفتة للآخرين أو العكس التحرك بشكل سريع أكثر من العادة	0	1	2	3
H9. التفكير بأنك ستكون أفضل لو أنك تموت، أو آذيت نفسك أكثر من العادة	0	1	2	3

Appendix (C)

Consent Form

Dear Sir/ Madam:

I'm currently conducting a research study entitled; Smoking patterns and factors associated with smoking cessation in patients with CVD in Jordan. Iwould like to ask you a few questions to see if you are eligible to participate in this study and I would like to invite you to participate.

Your involvement in this study is completely volantary and involves a 45 minutes questionnaire about your health habits, knowledge, belief, and other information concerning the events leading up to your admision to the hospital for treatment of your heart problem. This questionnaire will be administry and filled out by me during a semi-structured interview. Participating in this interview will not cause any harm or discomfort, and you have the right to chose the suitime to do that; and also you have the right to end this interview at any point you wish to do.

The information collected from the intreview will be kept strictly confidential. All information will be presented as an aggregate in summary form and your answer will not show your identitiy. You will not be identified by name in any scientific literature. Participation in this study does not require any further obligations.

Findings from this study can provide evidence which can be useful for the health care team in identifying better strategies for smoking cessation that will lead to decreased in the prevalence of heart disease in the Jordanian population.

I have had a chance to ask questions and I agree to take part in this study.

Subject…….. Witness………….

Imad Moh'd Al-Jarrah., RN, MSN, PhD(c).
University of Jordan, Faculty of Nursing,
Professor Erika.Froelicher
imadmj@yahoo,com, erika.froelicher@nursing.ucsf.edu

Appendix (D)

نموذج موافقة

السيد /السيدة

أقوم حاليا بدراسة بحثية بعنوان:

(أنماط التدخين والعوامل المرتبطة بالإقلاع عنه بين المرضى المصابين بأمراض القلب والأوعية الدموية في الأردن).

سيتم طرح بعض الاسئلة عليكم للتاكد من امكانية مشاركتكم في الدراسة و دعوتكم لذلك. ان المشاركة في هذه الدراسة تطوعية و تشمل استبانة تحتاج الى 45 دقيقة و تدور حول عاداتكم الصحية , المعرفة , المعتقدات و معلومات اخرى تتعلق بالاحداث التي تؤدي الى دخولكم للمستشفى لعلاج مشاكل في القلب. ستتم ادارة و تعبئة الاستبانة من قبلي و ذلك خلال مقابلة شبه مبنية.

ان المشاركة في هذه الدراسة لن تسبب لكم اي اذى او ازعاج ولكم الحق في اختيار الوقت المناسب لاجراء المقابلة و لديكم الحق في انهائها في اي وقت. ان المعلومات التي سيتم جمعها ستعامل بسرية تامة و ستعرض في نموذج ملخص بحيث لا تكشف هويتك او اسمك ولن تتطلب المشاركة اي التزامات اخرى.

ان نتائج هذه الدراسة يمكن ان تفيد فريق الرعاية الصحية في معرفة استراتيجيات افضل للامتناع عن التدخين والتي يمكن ان تؤدي الى تخفيض نسبة الاصابة بأمراض القلب في المجتمع الاردني.

كان لدي الفرصة لتوجيه الاسئلة واوافق على المشاركة في هذه الدراسة.

تاريخ إجراء المقابلة:......................

المشارك **شاهد**

Appendix (E)

Permission Letters

1.
From:
"imad al-jarrah" <imadmj@yahoo.com>
View contact details
To:
blume003@mc.duke.edu
Dear Dr. Blumenthal

I am a doctoral student at the University of Jordan, and am planning to do my research on the topic "Smoking patterns and factors associated with smoking cessation in patients with CVD in Jordan". Dr Erika Froelicher is my dissertation supervisor.

I am writing to ask for permission to use the "Enriched Social Support Instrument" for my dissertation and any manuscripts result from this study in a heart disease population.
Thank you in advance for your attention

Best regard

Imad Al-jarrah

2.
From:
"James Blumenthal" <blume003@mc.duke.edu>
View contact details
To:
"imad al-jarrah" <imadmj@yahoo.com>
> wrote:blume003@mc.duke.eduOn Wed, 8/5/09, James Blumenthal <

>blume003@mc.duke.edu From: James Blumenthal <
Subject: Re: Fw: Re: permesion
>imadmj@yahoo.com To: "imad al-jarrah" <
Date: Wednesday, August 5, 2009, 7:32 PM

Good luck to you, and give my best regards to my good friend Erika Froelicher.

Dr B.

3.
imadmj@yahoo.comFrom:imad al-jarrah <

08/05/2009 11:50 AM
>blume003@mc.duke.eduTo: blume james <
Subject: Fw: Re: permesion

Dear Dr. Blumenthal

Thank you so so much for your quick response and gave me
the permission to use ENRICHD SOCIAL SUPPORT INSTRUMENT (ESSI)in my study. I will reference the scale in the event that I publish my work.

Best wishes, Imad AL-jarrah

4.
From:
"imad al-jarrah" <imadmj@yahoo.com>
View contact details
To:
rls8@colombia.edu
Cc:
"Erika Froelicher" <erika.froelicher@nursing.ucsf.edu>
Dear Dr. Spitzer

I am a doctoral student at the University of Jordan, and am planning to do my research on the topic "Smoking patterns and factors associated with smoking cessation in patients with CVD in Jordan". Dr Erika Froelicher is my dissertation supervisor.

I am writing to ask for permission to use the "Patient Health Questionnaire (PHQ-9)" for my dissertation and any manuscripts result from this study in a heart disease population.

Thank you in advance for your attention

Imad Al-jarrah

5.

To: "Imad Moh'd Al-Jarrah (imadmj@yahoo.com)" <imadmj@yahoo.com>
Message contains attachments
1 File (270KB)

- PHQ plus Instructions (Feb 2008).doc

From: Donna Burgett [dburgett@regenstrief.org]
Sent: Monday, August 10, 2009 5:38 AM
To: Froelicher, Erika
Subject: Re: [Fwd: Fw: Permission]

Hi,
Attached please find a PHQ document which includes the PHQ, various subscales and the GAD-7 as well as background information. They can be reproduced and are free to use in research, clinical and education purposes.

Kind regards,
Donna

Kurt Kroenke wrote:

Subject:
Fw: Permission
From:
"Robert L. Spitzer" <spitzer8@verizon.net><mailto:spitzer8@verizon.net>
Date:
Sat, 08 Aug 2009 23:54:02 -0400
To:
"Kurt Kroenke" <kkroenke@regenstrief.org><mailto:kkroenke@regenstrief.org>
To:
"Kurt Kroenke" <kkroenke@regenstrief.org><mailto:kkroenke@regenstrief.org>

Robert L. Spitzer, M.D.
Professor of Psychiatry
Columbia University

Cell phone: 914-500-7941
Email: Spitzer8@Verizon.net<mailto:Spitzer8@Verizon.net>
----- Original Message ----- From: "imad al-jarrah"
<imadmj@yahoo.com><mailto:imadmj@yahoo.com>
To: <rls8@columbia.edu><mailto:rls8@columbia.edu>
Cc: "Erika Froelicher"
<erika.froelicher@nursing.ucsf.edu><mailto:erika.froelicher@nursing.ucsf.edu>
Sent: Saturday, August 08, 2009 11:58 AM
Subject: Fw: Permission

أنماط التدخين والعوامل المرتبطة بالإقلاع عنه بين المرضى المصابين بأمراض القلب والأوعية الدموية في الأردن

إعداد
عماد محمد الجراح

المشرف
الأستاذة الدكتورة إريكا فرولكر

المشرف المشارك
الدكتورة كوكب الشيشاني

ملخـص

التدخين هو السبب الرئيسي لحدوث الوفاة على مستوى العالم ومن الممكن تفاديه. يعتبر التدخين من أهم العوامل الرئيسية للإصابة بأمراض القلب والأوعية الدموية. تشير معظم الدلائل إلى أن معدل انتشار التدخين بين المرضى الذين يعانون من الأمراض القلب والأوعية الدموية في الأردن في ازدياد مطرد. لا يعرف الكثير عن سلوكيات التدخين المتبعة من قبل هذه الفئة من المرضى.

الغرض من هذه الدراسة هو تقييم أنماط التدخين وما يتعلق به من معرفة واتجاهات ومعتقدات لدى المرضى الذين يعانون من أمراض القلب والأوعية الدموية في الأردن، وأيضا هدفت الدراسة إلى تقييم العلاقة ما بين المعرفة والاتجاهات والمعتقدات حول التدخين، والمستوى التعليمي، وجود أعضاء آخرين مدخنين في المنزل، وحالة الاكتئاب، والدعم الاجتماعي غير الكافي، وما بين الرغبة الجادة في محاولة الإقلاع عن التدخين.

اشتملت هذه الدراسة على الأسئلة البحثية التالية: ما هي نسبة شيوع فئات التدخين (مدخن حالي، مدخن سابق، غير مدخن) لدى المرضى الذين قد تم إدخالهم إلى المستشفى ممن يعانون من الإصابة بأمراض القلب والأوعية الدموية؟ ما هي أنماط التدخين والمعرفة والاتجاهات والمعتقدات المتبعة من قبل مرضى الذين قد تم إدخالهم إلى المستشفى ممن يعانون من الإصابة بأمراض القلب والأوعية الدموية؟ ما هي نسبة المرضى الذين قد تم إدخالهم إلى المستشفى ممن يعانون من الإصابة بأمراض القلب والأوعية ولديهم الرغبة الجادة في محاولة الإقلاع عن التدخين؟ هل توجد هناك علاقة ما بين المعرفة والاتجاهات والمعتقدات حول التدخين، والمستوى التعليمي، ووجود أعضاء آخرين مدخنين في المنزل، وحالة الاكتئاب، والدعم الاجتماعي غير الكافي، وما بين الرغبة الجادة في محاولة الإقلاع عن التدخين.

استخدمت هذه الدراسة التصميم الوصفي لاختيار عينة متوفرة مكونة من 351 من المرضى المصابين بأمراض القلب والأوعية الدموية واللذين تم إدخالهم لأقسام الجراحة والباطنية ووحدة رعاية القلب والشرايين التاجية في مدينة الحسين الطبية. جمعت البيانات من أفراد العينة من خلال إجراء المقابلة المنظمة. كانت نسبة الإستجابة (97.5%).

أظهرت نتائج هذه الدراسة أن متوسط عمر العينة 53.77 (± الانحراف المعياري 11.32) سنة. كان معظم المشاركين في الدراسية من الرجال (العدد = 289، النسبة 82 ٪). أربعون بالمائة من العينة كانوا من المدخنين الحاليين. أقل من نصف المدخنين فقط تم نصحهم بضرورة الإقلاع عن التدخين. معظم المدخنين الحاليين حاولوا الإقلاع عن التدخين باستخدام طرقهم الخاصة. ربع المدخنين الحاليين كانوا غير مدركين للمخاطر الصحية للتدخين. أظهرت نتائج التحليل الإحصائي للانحدار اللوجستي إلى أن السؤال المعرفي الأول "هل تعتقد بأنك سوف تتجنب أو تقلل العديد من المشاكل الصحية الخطيرة في حال أقلعت عن التدخين؟" هو المتغير المستقل الوحيد ذو الدلالة الإحصائية لمدى الاستعداد الجاد للتوقف عن التدخين [معامل الخطورة = 3.02؛ 95٪، فترة الثقة,1.06، 8.62].

أشارت نتائج هذه الدراسة إلى أن معدل انتشار التدخين بين أفراد العينة كان عاليا. هؤلاء الذين حاولوا الإقلاع عن التدخين لم يحصلوا على مساعدة أو نصيحة عن أساليب التوقف عن التدخين وغالبا ما كانوا يفشلون في محاولاتهم. يمكن استخدام نتائج هذه الدراسة في تطوير برامج فعالة للإقلاع عن التدخين. خلصت الدراسة إلى أن هناك حاجة ملحة للمباشرة بإجراءات الإقلاع عن التدخين في مستشفيات الأردن بحيث ترتكز على الدليل العلمي لمساعدة المرضى المصابين بأمراض القلب الأوعية الدموية للإقلاع عن التدخين. ويمكن تحقيق ذلك من خلال تطبيق سياسات الإقلاع عن التدخين في معظم المستشفيات في الأردن.

الكلمات الدالة: التدخين، بأمراض القلب والأوعية الدموية، الإقلاع، الإجراءات، الأردن.